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W. C. LYLE, M.D., Editor - - - Augusta, Georgia

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THE ASSOCIATION OF UNCINARIASIS (HOOK-WORM) IN CATARACTS.

F. Phinizy Calhoun, A.B., M.D.

Atlanta, Georgia.

That hook-worm disease is the most common of all the severe maladies in the South, there can be no doubt, and this contribution to the subject where the eye is secondarily affected, should be of interest to the general practitioner as well as to the Oculist.

Some months after Harris had announced the discovery and the prevalence of Uncinariasis (hook-wom) in the South, there was found in the Eye Clinic of the Atlanta College of Physicians and Surgeons, a typical looking case, in which there were mature cataracts. An examination of the feces from the patient confirmed the diagnosis of hook-worm, and after the usual treatment of calomel and thymol had been administered in due time an extraction of one of the cataracts was made.

This case and others subsequently found in the same Clinic were reported to my father, Dr. A. W. Calhoun, before this Association in 1904, and in part I herewith attach his report to make the subject more complete: [illegible] port to make the subject more

"February 1, 1904, I was consulted by Mrs. H., 42 years of age, from Florida. She was very pale and profoundly anemic (condition found in reputed "Dirt Eaters"), with a skin of deep lemon-yellow color, and the mucous mebrane of the mouth and conjunctiva almost bloodless. She gave no distinct history of malaria, had not not lost flesh and had normal temperature; indeed, her health was moderately good, but there was a slight cropsical condition of the lower extremeties which she attributed to her sedentry life. Examination of urine showed neither albumin nor sugar. Double cataracts (chalky white) were fully developed with good light perception, beginning a year after the establishment of the general disease. Examination of the stools showed these eggs of the worm in large numbers, revealing an undoubted case of uncinariasis. After a few days of vigorous treatment, I extracted the cataract from the right eye. She made a good rapid recovery and returned home a few days ago with good vision.

"In June, 1903, a boy, 14 years of age, was brought to me from the southern part of Florida with well-matured double cataract. He had identically the same general appearance and all the prominent symptoms of the case of the woman above described, the

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blindness, as in the woman, beginning after the general disease had been in existence about eight months. Specimens of the feces were examined and quantities of the hook-worm eggs were found. He had no malarial history. After an active treatment with calomel, followed by large doses of thymol, the cataract of one eye was needled and he made a satisfactory, uneventful recovery.

"During the Summer (1903), I operated upon two other cases of cataract, associated with similar conditions; one male, 40 years of age, from South Georgia, and one female 43 years of age, from Florida. Each presented the intense anemic yellow skin. bloodless mucous membranes (conjunctiva a bluish white), normal temperature and freedom from malaria and kidney complications. Both had slight swelling of the lower extremities. As in the others, the cataracts in these cases began after the development of the general disease. In every instance where the examination of the feces was made, the eggs of the worm were found.

"I can now recall to mind several other cataract cases, having all these well-marked conditions, but I did not then have any acquaintance with the parasite, and hence no examination of the stools was made. They were supposed to be suffering from malaria and were treated as such preparatory to the operation. I am now convinced they had hook-worm diseases."

The two following cases having come under my observation during the year I report them completely to add additional evidence to the fact that cataracts **might** be caused by the profound anaemia due to Uncinariasis.

Case 1. M. R. age 20, a country, ignorant lad from the back woods near Ellijay, Georgia, was referred to me by Dr. J. E. Tankersly. The boy was so ignorant, or frightened at the time of my office examination, that I could obtain very little history from him except, that the sight in the right eye had gradually failed for one year, whereas the left eye had rapidly gone blind in the past three months; formerly he thought he had as good sight as any one. Dr. Tankersly confirmed his statements, having known the boy and his family, who belonged to that class known to us as "poor white trash." Heredity played no part in this case; his family was in fairly good health, yet most likely the home was a hot bed for hook-worm. This patients health had never been good, evidently suffering from the infection of hook-worm, since he had the ground itch, years ago. He occasionally had gone to school until his sight began to fail and he had spent that year "around the house" because "shortness of breath" kept him from working. His appearance was so typical of hook-worm, that it was of no credit to the miscroscope to later find the eggs. He was small in stature, about four feet six inches, most pale, having a bloated face, an anxious expression, and the tissues relaxed, and he gave the appearance of not being more than twelve or fifteen years old, and the mind of one not that age.

Examining the eyes, I found the conjunctivia was bloodless, the pupils reacted to light, and his projection was good. After dilating the pupils, I found a fully developed cataract in his left eye, the right not quite as mature. I sent him to the hospital to be operated on the next day. Except for a haemic murmur he was found to be normal by a physical examination. The urinalysis was normal. Blood Haemoglobin 20 per cent.; Red 2,000,000. Faeces loaded with eggs of Uncinaria. Under cocaine anethesia a light discission of the left cataract was performed and in two days I found absolutely no reaction either of the globe or lens. Four days later I attempted another discission, lacerating the capsule well and stirring up some of the cortical substance of the lens. Much to my surprise, I still found no reaction to the eye or swelling of the lens. Then I deemed it best to give the patient the usual preparation and treatment of calomel any thymol for such parasites, and saving all stools after the administration of thymol, 750 worms were found. Within a few days after the treatment the lens commenced to swell although it took six discissions in each eye to establish an opening through the dense capsule which remained and through which the fundus could be seen. After four months of careful nursing and treatment at the Wesley Memorial Hospital glasses were adjusted and out of his left eye he could only see 20-70 with a 11.50 S. The result in his right eye was not so good at that time, as there was still an unabsorbed capsule. A very good view of the left fundus was obtained and I found marked circulatory disturbances in the retina. The nerve head was swollen two or three dioptres, the veins markedly dilated and throughout the retina there was a few small flame-like hemorrahages. This retinal condition is not uncommon in marked anaemias, but the first I have yet seen or heard recorded in a case of hook-worm. These retinal disturbances were undoubtedly the cause of his poor sight after the operation, as the pupil was large and black and the emdia clear. In a letter from the patient

this year he tells me that his sight is still improving, meaning as his anaemia vanishes, the retinal congestion diminishes and sight is restored. Unfortunately no accurate records of weight or height were taken but he must have grown two inches, and gained 30 pounds from July 4th, to November 26th. The haemic murmur disappeared, his mind grew brighter and he was full of energy when leaving, although the thought of home and the approaching of Christmas time acted somewhat as a stimulus.

Case 2. This case while not as interesting, I am as convinced that the anaemia produced by hook-worm caused the cataracts.

L. B. C., age 26 of Newnan, had been blind in the right eye two years; left ten years, whereas up to that time when out hunting, as he expressed it "he could kill a rabbit as far off as any one." His father, an old man, had cataracts removed some years ago, a record of which I have. He gives a history of having had the ground itch, for which he was given some sort of treatment years ago, and of having been thin and puny when a boy. This treatment possibly was the thymol treatment for hook-worm, although I have been unable to learn anything definite from his family upon this subject. This patient was well developed (another fact which makes me believe that thymol has at some time been administered), but he had the appearance of a boy 10 to 20 years old, and the intellect of one much younger, although he was thoroughly ignorant and had never been to school. The right eye showed an immature cataract, of the cortical variety; vision, could count fingers at four feet. Left eye mature cataract. Projection good in each eye. Blood normal. urine normal. Feces: Many eggs of uncinaria. On account of no existing anaemia, I decided to operate before giving him thymol, in order to save time, and on September 11th, the lens was extracted in toto from the left eye, after the method of Graefe. Healing was uneventful and on the 7th the treatment for the hook-worm was given and about 200 parasites were found. Later a glass was prescribed for his left eye and only fair vision was obtained, viz.; 20-100, explained only by the fact that the eye was emblyopic exanopic for ten years. Only a preliminary iridectomy was performed in the right eye and I anticipate a much better result after extraction.

An analysis of these cases gives some very convincing facts leading me to believe that the anemia of hook-worm can cause cataracts. All of these cases state emphatically that at one time they had good vision, there was sickness which developed after having had the ground itch (meaning anaemia and its results) then the gradual loss of sight and finally partial or total blindness.

The lens of the eye, situated in the interior devoid of blood vessels, receives its nourishment from the surrounding structures and any deprivation of nourishment sets up a degeneration which means the formation of a cataract. In all of these cases the age in which the sight commenced to fail is unusual for the development of cataract.

Discussion of Dr. Calhoun's Paper.

Dr. W. E. Taylor, Atlanta: The paper and investigations made are illuminating in several ways, and what has been stated has been said in a very clear cut manner. In an examination of the eyes, however, it should be remembered, and this fact should be given serious consideration, that all sorts of general diseases affect this organ, and that the examination of the eye should only be undertaken by men who have had experience in this line of work, at least by men who have had some preliminary training in diagnosis of diseases of the eye.

Dr. R. P. Cox, Rome: The reading of the paper has interested me very much but there is no doubt in my mind that cataract process was the result of denutrition due to the effects of the hook-worm disease. There is no doubt also that if we could get statistics on this subject it would show that the hook-worm was the cause of many of the anemias. I am very much interested in this subject, not only because of the effect of the hook-worm upon the eyes, but because of what has been brought forth by investigation in Georgia schools. Throughout Georgia we have scattered some two hundred (200) pupils (?). Some five or six hundred of them were to be examined and I was requested to make such an examination for hook-worm disease. This was seven or eight years ago. We found that fifty-six per cent. (56%) of the pupils had the disease, manifesting itself in one way or another. We have had noble results as the result of our investigations. Very gratifying results have been had as the result of the treatment employed.

Dr. A. G. Fort, Lumpkin: Dr. Cox has impressed upon us the fact that such a large percentage of our school children are affected with hook-worm disease. There certainly seems to be some relationship between the effects of the parasite and defective vision; just what it is we do not yet know. This

also brings to mind the fact that in the examination of those almost, if not completely blind a large percentage of them will be found infected with hook-worm disease. We do not believe that hook-worm disease in itself will produce blindness, but we de believe that there is some relationship between the hook-worm toxemia or poison which has some distinct bearing upon the defect of vision, and to a certain extent, the blindness.

Dr. J. L. Hiers, Savannah: We have been shown today that hook-worm disease is responsible in a large measure for cataract, especially in the young and this emphasizes the importance of the further co-operation of the eye man with the general practitioner. We are fairly well convinced that the hook-worm is responsible for many diseases and complications that occur in children. The paper just read I think is a very scientific one and I know that we should feel that we are very much indebted to the doctor, not only to him but to his late father whom we all knew so thoroughly and well, for the research work they have done. They have pointed out to us the relationship between cataract and the hook-worm. I am sorry they did not show a more intimate relation and a more definite action of the hook-worm in bringing about the condition under discussion.

Dr. F. Phinizy Calhoun, Atlanta, (closing the discussion): I recently read a book in which were given instances of circulatory disturbances in the retina caused by the hook-worm; it was very interesting. In answer to the question of how cataracts were produced by the hook-worm, I am unable to say; however in our examinations we often find that the fibres of the lens have conditions indicative of beginning cataract and this is excited to growth by the hook-worm.

A SANER FOURTH

Thanks to the country-wide agitation for a saner Fourth, the immediate newspaper reports of the annual sacrifices to the use of fireworks indicate that they are less in number this year than for many years. Deaths from tetanus always swell the report considerably during the ensuing six weeks. It is hoped that the final total also will be much less this year. Everyone who has assisted in improving conditions is entitled to credit and is rejoicing over the lives that have been saved.

PSYCHOTHERAPY IN HABITUAL CONSTIPATION

E. T. Gibbs, M. D., Gainesville, Ga.

In reporting this series of cases, relieved of constipation by psychotherapy, no originality is claimed for the idea, as it was gotten from DuBois, of Berne, who has used the method successfully for over thirty (30) years. Lyon, in "The Radical Cure of Habitual Constipation" also mentions DuBois. Davis merely mentioned **hypnotic suggestion** for the same purpose in Sajous Analytical Cyclopedia of Practical medicine, only alluding to it meriting as yet (1904), but little confidence.

Inasmuch as there is considerable disagreement as to the definition of the word psychotherapy, I wish to present and discuss the method followed in the treatment of these cases.

Some look upon psychotherapy as synonomous with hypnotism or suggestion in the waking state; some think it only applicable to psychic disorders; while still others believe the entire phenomena purely psychic.

Some of the religious cults, while beginning with cases diagnosed by medical men, as the so-called functional disease, have now become bold enough to proceed without aid from the medical man. Probably by a combination of suggestion, persuasion and hypnotism, they became so enthused over certain magical results, that they combined the whole with religion and looked upon the cures as being of divine origin. Indeed, with some of these cults, even the existence of disease is denied, and only an unqualified acceptance of their faith is necessary for freedom from any malady.

On the other hand, psychotherapy has been practiced by all physicians, we might say, since medical history began. Suggestion alone, suggestion by drugs, and in various other ways. Hypnotism for a while was highly lauded but of recent years, it is being largely abandoned and psychotherapy, as it is now consciously used, instituted in its stead. Even those men who claim to see harmful effects from hypnotic treatment, are willing to admit that a clearing up of psychtherapy has been due to the exhaustive study of hypnotism by men within the medical profession. It was Bernheim who pointed out that hypnosis within itself is nothing, for it is merely suggestion while in the waking state, which puts the subject into the so-called trance, thus allowing himself to become a slave to the wishes of the suggester. Inasmuch as pure ideas or sen-

become a slave to the wishes of the sug-

sations cannot exist, independent of physical conditions in the cerebrum, which is the claim of physiologists, Barker has suggested, to avoid confusion with spiritualism or other mystical conceptions, that it might be better to speak of psychophysical influence and psychophysical therapy, than to use the terms in vogue. For if the above assumption be true, he points out that any influence which exerts a psychic effect also produces a physical change in the body, so it is then obvious that physical and chemical influence which lead to alterations in the structure and function of the neurones of the pallium may have a profound effect on the psyche.

The number of patients treated and relieved, is one hundred and six (106), without a failure, if permission is granted to shift two cases to the column for errors in diagnosis. These were the only ones abandoned in the series and will be referred to later. I especially desire to emphasize the fact that the method was only applied to those of the habitual type, so it will be unneccessary to discuss the various causes of constipation, such as obstruction, fissures, hemorrhoids, ulcers, extreme atony or the type associated with various diseases where thorough depletion is frequently desirable or even necessary. Cases with dilation of the colon, where we get **at times,** distension of the whole or various parts of the colon, accompanied by such symptoms as headache, vertigo, nausea, gaseous eructations, slight dyspnoea (generally at night,) pains in the back and at times various nervous symptoms, were not classed as unfavorable subjects; there being a number of such cases in the series. This class were small eaters, passed urine frequently but the twenty four hour specimen usually showed a deficient quantity, highly colored, most always a marked indican reaction and occasionally highly charged with phosphates. These were kept under observation until they could be established upon a liberal and suitable diet, but if medicine was to be given for the condition, it was withheld until a few days after the bowels had begun functionating. It seems to me that the establishment of regular peristaltic action, a proper diet and a re-education of their ideas concerning themselves, has largely to do with their future well being. Am sorry I failed to keep a record of the cases thought to be unsuitable for the treatment. However there were several anal fissures, one fistulo in ano, hemorrhoids (severe), retroverted uteri, one rectocele and four morphine habitues in the group. The latter were accused and hard pressed before the histories were obtained of morphineism. One was thought clinically to be chronic intestinal obstruction: he has since died. Three of the surgical conditions were operated upon and afterward given psychotherapeutic directions for relief of constiuation. The unfavorable cases of the habitual type, so far as permanency of cure is concerned, will be referred to later.

As to causes of habitual constipation, I believe the name largely explains the condition, but numerous contributing factors come in for their share of credit. Among which diet, both the small eater and those who eat largely of foods which furnish only a small amount of nondigestable food and debris. Frequently, people lay the cause of the trouble to sedentary habits which no doubt play a part but on the other hand, it is not unsual by any means, to find them among laborers, walkers, athlete and so on. Among people who have demands upon their time at all hours, as various professional and business men, the busy house-wife and those who do not select and observe a regular hour, is where we find the bulk of cases. Then comes the conviction of inability or almost complete dependence on some other medical agent rather than upon natural stimulations.

Just as every disease, whether it be physical or psychic, should be individualized, so will every case of constipation have to be dealt with somewhat differently.

In these cases, an effort has been made to use only rational persuasion. It will be evident that suggestion comes in frequently, but particular pains are taken to make no statement that is not what we believe to be absolutely true from a study of both physiology and psychology. Then it will be possible to convince or persuade the patient of the logic of each statement, step by step.

A diagnosis of the habitual type having been made, in a general conversation, the patient's ideas are studied, and we find, I might say, valuable obstacles, which our persuasion is to overcome. As we are going to teach the patient self-reliance, it will be necessary to get his full consent and also to inspire him with determination to enter upon a plan of treatment that is independent of drugs. He can be questioned upon the various remedies from which relief has been sought, and when you ask why he jumps from one remedy to another, the answer will be, because the remedy fails after a time. He will then easily see that relief is not near at hand by the method he is now pursuing, and if his attention has been thoroughly

grasped, he at once becomes interested, provided the plan appears plausible to him. The question of head-ache, in case of a lapse, is often a serious obstacle, and as we cannot say that the constipation is free of responsibility, merely add "No risk, no gain," thus pursuading him to be content in the presence of a little pain for a short while, should it become necessary.

The influence of habit in our lives generally is stressed, and a few examples suitable for the particular patient, are cited. It will be easy for the patient to recognize that if the regular retiring hour has been ten o'clock, the eyelids will usually become heavy at that time. On the other hand, where a regular hour of retiring at twelve has been well established, it will be in vain to sleep before this time, should he go to bed at nine, even though he may have passed quite a strenuous day. Just so, we have noticed our parents or grand-parents arising at six in the morning, when we have felt that they would do well to take more repose, but the habit has been formed and they persist, even though they may lie down for a nap before the noon hour has arrived. The patient will usually cite other examples to support your statement, thus showing he has caught the idea. These are facts, very likely of which he is already cognizant; but in matters of which one feels sure, it is quite a relief to confide in a dear friend and receive his encouragement. Just so, the patient has not analyzed these facts, and applied the comparisons which we suggest. When they think of the regularity of habit in those not constipated, they see no reason why they themselves should not establish the habit. The human organism may be compared to an imposing locomotive engine, and reference made to the necessity of having an engineer and fireman to operate the latter. Just so, when we are constantly devising means for the operation of our bowels, they are accustomed to aid, so invariable wait for it. On the other hand, our bodies, when in a state of health, have been equipped as self-oiling and self-regulating pieces of machinery, and a good way to teach one self-reliance, is to place him on his own responsibility. The functions of digestion are gone over in a very general and simple way of course, when opportunity is taken to lay particular stress upon peristalsis, mastication, assistance of saliva as a lubricator, deglutition, journey of food to the stomach, and on through the intestinal canal. Fact that in upper end of small intestine, the nutritious portion of food is absorbed into the system through tiny blood vessels lining their walls, the remaining indigestible, undigested food with debris go to be thrown off as waste. Some simple illustration is used to illustrate peristaltic movements, the means by which the food is carried along its course. One who has seen a field of wheat just before harvest time can recall a mental picture of the beautiful ripple which passes over the field under the influence of a gentle breeze, or how slight continuous strokes on a sheet of still water, will send wave after wave, each chasing the other. These can be imagined as similar to the persistaltic waves which are set in motion by the complex stimulations. Epsoms salts acts as a purgative by reason of its abstraction of water from the intestinal bloodvessels, because it is not readily absorbed; thus directly it stimulates persistalsis. Such stimulations may be cultivated to act in an automatic way at regular intervals, provided we indulge persistance. After the habit is formed, one stimulation will be all that is required, but at first we must summons a number of continuous invitations.

No directions, very much out of the ordinary, are given, such as exercise, special diet, water at stated intervals and so on, for many of the patients would neglect some particular and would at once realize that they had not followed directions; consequently, the object sought for would not be as confidently expected. Find out the usual routine of arising, breakfast time and hour of departure for work, making nothing arbitrary except a promise of regularity in the execution of these three acts until the habit is well established, when he can then rely on the stimulation coming at a certain number of minutes following the breakfast hour, but this notice, must continue to be regarded as an important duty to be performed in his daily routine.

The act of getting from bed, movements of body in dressing, and preparing one's toilet may be enumerated as three successive invitations, a glass of cold water is now taken for the fourth, then comes breakfast for the fifth, and the acts of going to stool is considered the sixth. Coffee, dry toast and crisp bacon may be ordered for breakfast, with any additional food that patient may desire. The meal will keep in action the previous stimulations already begun. Say the hour for stool has been set for thirty, forty-five or sixty minutes following beginning of meal, according to amount of time the patient usually has before his hour for business. Directions are now given as to use and abuse of abdominal muscles and the will power. De-

fecation is stimulated by entrance of the mass into the rectum, which sets up the persistaltic wave, but only a slight and gentle contraction of abdominal muscles should be induced at the beginning. The sphincter which acts as an inhibitor, will often contract all the tighter, if the muscles and will are brought to act too violently at an inopportune moment. The fecal column may also possibly be deflected from its proper course. Some patients state that they simply wait for the desire, and then offer gentle assistance. This ends the treatment, and in people other than neurasthenics or people without persistnce or determination, is usually enough to accomplish the result. In such instances, it will be necessary to keep up encouragement for a few days, I do not unless hard pressed, tell the patient that an enema will be given on third or fourth day, but simply wait until the time arrives, then if necessary, the usual S. & W. enema is ordered, a quart introduced, in the knee-chest position, so it can course well into the colon to be retained for fifteen minutes by the clock if possible.

It is not unusual to have patients state "But Doctor, I have many times tried just such a plan, but invariably with the same result, failure." "Very well" I add, "One or two failures should not absolutely guarantee another; and, remember we are going to summons at this time a number of successive stimulations. A barrel may hold many quarts of water, but if one keeps pouring quarts of water into it, finally this one cup will cause the over flow." Remind him here that the method has succeeded with others, if it has, and simply urge a trial. I might add here, that I believe a certain amount of enthusiasm, together with sincerety in expectation of outcome, is a valuable, if not a **necessary** adjunct to the physician giving the directions.

As stated, the number of cases treated is one hundred and six (106) without a failure. Three enemae were given but all to the same patient who will be referred to later. It seemed as though the cases were not really constipated but merely had the conviction of constipation. However, no case is reported except those who gave histories of protracted constipation, some having had trouble with it since childhood, in an obstinate form.

Only two cases were given directions which had to be abandoned on account of mistaken diagnosis. These were seen at Dispensary of Baltimore College of Physicians and Surgeons. They refused vaginal and rectal examination but gave such good histories of habitual constipation, that they were undertaken. One was suffering with marked gastroposis, and floating kidney; the other had a general enteroptsis. Both, markedly neurasthenic but were fairly well nourished, and in seemingly good physical condition. On the third day enemae were ordered, and histories given of rather profuse hemorrhage, marked pain but little result from the injections. One submitted to examination by a gynecologist; retroversion of uterus, pressing upon rectum and internal hemorrhoids, she was advised to go into the hospital for operation, which she did. My directions were of course discontinued. The other refused examination, and observation was discontinued. They would have been numbers seventy-three and four respectively in the series. I was anxious to see the results in such cases but eagerness caused error in diagnosis. They stated later that blood in stool was denied at first to escape examination.

Ages of patients ranged from five to sixty-eight years.

Women predominate, about three to one.

Time of initial conversation ranged from thirty minutes to one hour and a half.

Both highly intelligent and ignorant persons responded alike. No subject would of course be undertaken who did not have necessary intelligence to follow and understand the outlined directions.

As to relapses, I am unable to give very definite data but have observed very few. I lay not a great deal of stress upon this however, for following reasons, except in those suffering from neurasthenia or some nervous malady. It would be expected that these have a tendency to relapse, because they do not usually have any surplus will power, are easily discouraged and not systematic generally. Their appetites are also capricious, and nearly always applying a cause for every result, many would get the conviction that they should be constipated, because they had thought the constipation responsible for their whole train of symptoms, and of course these, except very occasionally, would not permanently leave on so short a treatment. However, I find the method an excellent one in such cases where we are going to proceed with a treatment looking to the cure of the patients. For when the bowels move in a few days by such directions, it is a decided encouragement to the patient from the begining, and helps wonderfully in establishing confidence in themselves and also the physicians, both of which are so necessary for a speedy recovery, no matter what line of treatment is to be followed. As before stated

the suggestion involved is made rational so far as possible; consequently, the patient is able to see just how he was cured, and should be able to remain so by the same means, provided he does not become careless. In this case I think any one who has not been a sufferer is liable to the same thing should he become negligent. Had one old gentleman fifty six years old who skipped one day, and then took salts, and continued thereafter for a few days. When he mentioned the relapse to me, I simply said in about so many words, "Leave off the salts and apply the original remedy, but make up your mind right now, to depend on yourself and not the salts." He was relieved the second morning following. On account of just such an occurance as this, I always emphasize the fact that it may become necessary to resort to a flushing of the bowels, from directions of a physician, for example, but that it will be no more trouble to resume the habit if they will only apply the directions, which they will naturally come to know so well.

It is not necessary for the patient to have strong confidence, as the following illustration will show. A doctor of middle age, an active practitioner, had been suffering from obstinate constipation for eight or nine years Bowels had been regular previous to this time. He attributes the cause to continuous driving, having gotten into the habit on account of irregular hours of arising, breakfasting, and frequently being called out while yet at breakfast. It was with some reluctance that I undertook the case, remarking at the time in the presence of three physicians, that I had never given a physician this treatment, but had an idea that they would be hard subjects; however, you may yield, as my directions will at least have the advantage of demanding no disagreeable medicine. An unusual number of oppositions had to be overcome, most serious of which was the headache which would follow, he did not have two movements daily, which he at least made an effort to have. He was in Baltimore at the time, and remarked when the conversation was finished, that he would try it when he returned to his home. "Your confidence must be rather slim, doctor, from the doubt implied," I ventured. He replied frankly, "Not only shaky but I have absolutely no faith in it whatever, for the simple reason that I have tried just such means many times." The subject of headache which he supposed to be from auto-intoxication were again gone over. From his history, physical condition and so on, I did not believe the auto-intoxication was much of an element, if any. He gave a history of the regular old fashioned sick headache, from which he had suffered before the constipation came on, and in fact, had been troubled less of recent years than formerly. I urged a trial, insisted upon one movement daily, and cautioned him simply to allow but the morning action, if he could possibly prevent it. "Burn the bridges behind you and put up with a little headache if it should come. Do not be afraid of a little pain, when I believe you can be relieved, adding in a joking way, that he could be relieved of both the inconvenience and expense of resorting to Dr. Hinkle's pink pills." He gave his promise and had a normal passage the following morning, and continued to do so as long as I had him under observation.

An intelligent woman gave history of obstinate constipation since childhood, this having always been a source of worry to her mother. Did not remember ever having gone without laxitive for longer than five days. At present, she was alternating between senna tea and sal hepatica. She was relieved over night, after an hours conversation.

Will cite one case that responded promptly while on a rest cure. A woman of thirty-eight, hystero-neurasthenia of long standing, was put to bed and restricted to milk diet. Her symptoms were numerous and complex. Weakness, amounting to almost continual exhaustion, occipital headaches, pain in back, palpitation, precordial pain that had prevented lying on left side for some years, simultaneous swelling of abdormen and dyspnoea, especially at night, fear of impending death and so on.

Physical examination complete and negative; was also fortunate in getting a history from a very competent physician who had formerly treated her. Enema was ordered on third day following conversation (on bowels) and was notified that two had been given in knee-chest position but without results. Examination made and impacted feces discovered. It had been two weeks since vaginal and rectal examination had been made, and at that time the mass was not present. With the aid of a stiff rectal tube and an enema of glycerin and water, the mass was fairly easily dislodged. Bowels moved third day following, the same day on which bread and butter were added to the milk diet. Treatment was continued for two months along psychotherapeutic lines, the symptoms all disappearing with a seemingly good recovery. As to the bowels, patient has since passed through both an illness of typhoid

and malarial fever, and measles, during which, she received calomel, epsom salts and enemae, but quickly resumed normal movements following the illness, without any further directions. First treated in June and July, 1910.

The time of recovery in all cases being within six days, brings up an interesting psycho-physiological problem. Howell's physiology sums up the fact as follows: The whole act seems to be an involuntary reflex. The physiological center for movement probably lies in lumbar portion of cord; and has sensory and motor connections with rectum and muscles of defecation; but the center is probably provided with connection with centers in cerebrum, through which the act may be controlled by voluntary impulses and by various psychical states. The effect of emotion upon defecation being a matter of common knowledge.

As to the establishment of the function: A liberal diet, especially of vegetables and fruits, free drinking of water, regularity of chosen hour are all important. Then the entrance of feces into the rectum, setting up peristalsis in the lower portion and probably also throughout the whole intestinal canal, the play of the lumbar portion of the the cord; all of these factors are important, but of the directions in this series, none of the physical means have had time to act when we see the bowels respond frequently on the following day. The diet has had no time to produce a change, nor has habit had time to become formed. It is quite evident that the psyche plays an important role. I cannot say how many cases would be relieved in so short a time or what proportion would resist such treatment altogether, for some undoubtedly would, but it seems that a suppression of the conviction certainly plays an important role.

I have just recently seen a case that beautifully illustrates a very sudden stimulation of the bowel movement and at the same time shows what a marked effect the will plays as an inhibitor. The subject was a patient of Dr. A. C. Harrison's at the Mercy Hospital, Baltimore, convalescing from an operation for abscess of the liver. It is true that he has suffered for three years with a moderate diarrhoea, but as he lies in bed, he will not dare sip his coffee without first getting on the bed pan. He knows absolutely in advance, that his bowels will move at once upon taking of a hot drink. Before being confined to bed, the action was invariably the same, but if he were in a hotel, taking coffee with his meal, he could wait until the meal was finished, but would then always have to go in search of a toilet. But we cannot imagine he was always the same time in getting there, so it is seen from the fact that never could he desist for a minute longer, what a marked effect both the conviction and the will play.

Another patient, and not one who could be styled a neurasthenic, told me that she could not take a drink of fresh well water without becoming nauseated. A few minutes talk was enough to dispel the nausea and it could have been done by hypnotism, suggestion or rank deception, but in the case where the conviction was suppressed by a rational persuasion, it seems that the patient would be less likely to relapse. I mention this instance, merely to call attention to a conviction. At any rate, the psychology of defecation is a complex problem, and I have been unable to find what seems to be a thorough explanation of the phenomena.

This method, I believe would be applicable to a majority of habitual constipationist, but the time required for a diagnosis and the conversation is a serious draw-back for the method with busy practitioners. Whether as much time as I have allotted each patient is necessary, I cannot say. Neither do I know how many patients would recover with simply a two or three minutes talk on general directions, but the method for me was not very successful, and I was often told of failures by patients in this series. It seems however as though it should succeed with those who have the necessary persistence.

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Discussion of Dr. Gibbs' Paper.

Dr. Baldwin: It would be unfortunate to allow a discussion on psycho-therapy to pass by without some remarks. Psychotherapy is one of the oldest of our remedies for curing the sick, and it is employed as a rule unconsciously by the physician in every case he attends. The term psychotherapy is simply a convenient one and under it are included devices which have been

found to be of service in treating the sick. There are no hard and fast rules laid down for carrying out this procedure; however, it should be modified to meet the necessities of each case. It is not true that every case is amendable to the treatment by psycho-therapy. It should be born in mind that there are many instances in which psycho-therapy really means re-education; of course this implies the idea of education first before the patient can be re-educated. Take the acute insanities—psycho-therapy does little good in those who have aged, who have lost the elasticity of youth; they are not open to re-education as the young are. In many instances one should not attempt to carry out psycho-therapy unless they knew well what they are aiming at, and what they were attempting to accomplish. Many obstacles are met with in the employment of this method of treatment and they must be overcome.

THE DIAGNOSIS AND TREATMENT OF INTUSSUSCEPTION.

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Intussusception may occur in adults as well as in infants. In recent literature the intussuception of adults has been given due study and consideration. My experience has been solely with intussuception in infants, so my remarks will pertain chiefly to that class.

Of 301 cases statistics collected by J. D. Rushmore, 194 were males and 92 were females. The sex is not given in 15 cases. It will be seen from this collection that males are twice as liable to this disease as females.

We are impressed with the fact that certain conditions favor the development of intussusception, but the exciting cause is obscure. The age, length of mesentery, the iliscaecal valve at termination of small intestine, and the larger lumen of caecum and the colon beyond; the circular distribution of muscular fibers are favorable anatomical conditions for an intussusception, and the physiological action of the intestinal tract, with its sometimes irregular muscular contractures, add to the risk of the depelopment of the disease; for in the normal action of the intestinal muscles the subject is all the time on the border of an intussusception. These conditions however of themselves never produce trouble. I think the study of statistics and experience in the treatment of intussusception will impress one with the important part, that the intestines play, in the immediate causation of the disease. All writers agree that when once started the condition is easily explained, but the generally accepted etiology seems to lack a starting point. Treves says, "There is practically unanswerable evidence to show that intussusception is brought about by irregular action in the muscular wall of the intestine." Nothnagel says: "If I understand the matter correctly, true sequence of events is the following: While the bowels is performing normal peristallic movements, an annular and strictly local constriction of the bowel happens to occur. This constriction may be greater than normal and so pronounced that the limit of physiologic invagination is exceeded, and the first degree of pathologic intussusception developes, exactly in the same manner as it has been seen to do in our experiments.

It is quite unnecessary to impute any primary causative factor. What is needed is a simple increase in the intensity of the normal movement of the bowel which of itself is sufficient to produce this dangerous condition. On this basis too, the great predominance of invagination of the bowel in early childhood can be satisfactorily explained, for it is usually admitted that at this age the bowel is more irritable and more mobile than in later life. The proof of this assumption is that these called agonic form of invagination is most frequently found in bodies of children.

This statement as does Traves tends to explain conditions after the cause of the primary cause is elucidated. But there must be an exciting cause producing this primary cause, and this most likely could be accounted for in the presence of the intestinal contents, the same producing, by chemical or other irritation an increased muscular activity, thus aiding the possibility of intussusception. Aside from trauma, which may be a cause due to violent efforts in crying, it would have and does have more effect in producing adult variety. Further cases in which location of invagination was definitely stated, 140 cases occurred in the theory of mechanical obstruction, which is frequent at this point, causing the intus susception.

Ellsworth Eliot, Jr., and Jas. Corscaden, in a recent article in the Annals of Surgery deal with causative factors in intussusception with special reference to adults. The following causes of intussusception are given: Cases due to traction of benign tumors; cases associated with malignant tu-

mors. Acute cases with known cause as presence of foreign body; Ulceration at apex of invagination; Typhoid ulcerations; Traumatism; Intestinal tuberculosis; Dyentery; Meckle's Diverticulum.

The diagnosis of intussusception is usually easy. Osler says in children the presence of a tumor, bloody stools and tenesmus are the important factors. The tumor is usually sausage shaped and felt in the region of the transverse colon. In 66 out of 93 cases reported by Rushmore, it was present on the first day in more than one-third of the cases, on second day in more than one-fourth, on the third day in more than one-fifth. Blood in the stools occurs in at least three-fifths of the cases either spontaneously or following the use of an enema. The blood may be mixed with mucous. Tenesmus is present in one-third of the cases. Faecal vomiting is not very common, and was present in only 12 of 93 instances. Abdominal tympany is a symptom of slight importance, occurring in only one-third of the cases.

It was my pleasure to have received a monograph on this subject from Dr. Jno. F. Erdmann, he rather disagrees with Rushmore and Clutta in regard to the tumor. To quote him he says: "Palpation is not followed in fifty per cent by the finding of a tumor and ecrtainly not the clinical sausage shaped ones of the text books: and one is not likely to find a tumor from the fact that very often the tumor is hidden behind the costal arch of either side. This I have demonstrated many times to my assistants and in fact upon opening the abdomen, when no distinct tumor is palpable my first search with the examining finds is under right and left arch and then the sigmold and rectal region.

From study of case reports, the following facts are of interest. The disease occurs in previously healthy children. The attack is sudden characterized by severe paroxysms of pain and pallor. Shock may be noted at the time of the attack, but after first symptoms of attack have abated, one is surprised to find patient apparently in good condition.

Clubbe says: "The child may not look ill, the pulse rate may be hardly varied and its temperature may be normal, this of course applies to cases seen in first few hours. The later symptoms ascribed to shock are most likely due to collapse or sepsis. Rushmore contends that the tumor will be found in about 70 per cent of cases if it be sought for in proper way. Clubbe states that in 124 cases a mass was found invariably and can always be found if we examine carefully. He could remember only two cases in which abdomen was opened without feeling mass beforehand. In these cases there was much distention and the history and symptoms were characteristic. The use of a general anaesthetic is invaluable in certain cases for the hepatic or sigmoid flexure of the colon and that it may not always be sausage shaped. Eliot emphasizes the increase in the consistency of the mass formed by the intussusception, either with the advent of a cramp or even as the result of the mechanical stimulation in the course of routine palpation. This change in consistency, although it does not always occur, differentiates the tumor of an intussusception from either a neoplasm or a faecal impaction.

Intussusception may be confounded with appendicitis. A correct diagnosis is usually possible by noting that the tumor associated with appendicitis is almost invariably fixed, and enjoys little if any respiratory movement. Moreover the associated muscular rigidity is of great importance. In appendicitis is is always most marked in the lower right quadrant, while in intussusception the symptoms, if present, is generally more marked to one side or the other of the umbilious, while the intervening abdomen between this area and either inguinal region is either less rigid or entirely free from any rigidity whatever.

As has been mentioned intestinal or faecal vomiting has been noted in comparatively few cases and in those as a later symptom. In almost all cases we shall rely for diagnosis on the sudden attack of severe abdommal pain and tumor. When rectal symptoms areabsent and the others present, I should feel that the disease is in the small intestine as the discharge comes directly from the mucous membrane of colon and in the enterie form must be present as a later symptom.

The treatment of intussusception should be operative. Operation offers greater hopes for recovery if performed early, say within 24 hours. The time consumed in the operation to disinvaginate should not exceed fifteen minutes, and under such conditions the chances for recovery are excellent. Upon opening the abdomen our first effort is to find the obstruction or intussusception, and gradually reduce, if possible. This can usually be carried out by expression, but traction is at times necessary. The cause of the intussusception should be sought after and this removed if possible. If it be due to Meckel's diverticulum or appendix, they may be removed. If due to tumor same may be removed by linear incision of intestinal wall.

If due to malignancy, the only proper measure is resection and anastomosis. Should the intussusception be gangrenous resection is imperative. Of course this increases the shock and in infants it is usually followed by fatal termination. The removal of the intussusceptum, in the event the intussusceptum is viable, has been accomplished with success through a linear incision in its wall. The viability of the intussuscipiens also permits of intussusception being treated by enterostomy or by ileocolostomy. If the intussusception is necrotic the slough is eventually discharged through bowel.

If as is the case with many subacute or chronic intussusceptions, the intussusceptum is viable, an ileocolostomy relieves the obstruction and by deflection of the faecal current exerts a beneficial effect upon any being ulceration that may have been responsible for the intussusception. In such cases secondary resection should follow as soon as the patient's condition permits. Eliot and Corscaden's tabulated statistics show thirteen operations of this character with five recoveries and six deaths.

I mention the method of taxis, injection, inflation or manipulation separately or combined, simply to condemn them. Cases treated in this way do recover, but we have no reliable way of telling conditions inside, whether gangrene exists or not, same occurring at times three hours after onset of trouble and further performing an operation after this shock has been induced makes the outcome unfavorable. And again it is not possible to be certain that the invagination has been reduced completely and further, the underlying cause is again likely to cause a recurrence of trouble.

Figures, as far as they can be depended upon, would therefore prove that age exerts a very material influence in the prognosis of intussusception, that the mortality, on account of age alone, is practically twice as great during the first six months of life as after eighteen months. When the element of time is made the basis of prognosis the greatest encouragement is offered.

While young infants operated upon for the relief of invagination show a relatively high mortality, with early operative interference, we may expect a low mortalty at present 10 per cent.

It has been my pleasure to have seen and operated upon the following cases with results as follows:

Margaret H. Age two years was seized with symptoms of colic. Mother administered home remedies without avail. A homeopathic physician was called who administered oil and enemeta without results. Child passed blood and mucous after enema. Dr. A. C. Wade was called and recognizing case of intussussception referred case to me for operation. I saw child 72 hours after onset of syptoms. A tumor sausage shaped and freely movable could be well made out in right fossa. Immediate operation. Invagination reduced by expression and traction. The intussusceptum was hard yet it gave every appearance of being healthy. The intussusceptum was sutured to parital peritoneum and abdomen closed. A favorable prognosis was advanced but went into shock and died six hours later.

T. K., age two years. Referred by Dr. Rosborough was taken 72 hours before with nausea and vomiting and had passed blood and mucous in stools. A tumor in abdomen was readily found. Operation was advised which was refused. Child died following morning.

Chas. T. colored, age two years. Referred by Dr. Shellhouse. The child was taken with colic, being very restless and constantly placing hands on abdomen. Shortly after onset passed blood and mucous in stools, this continued at intervals for several hours. The following day Dr. Shellhouse sent child to hospital. A sausage shaped tumor was easily felt. The general condition of child was good. Immediate operation 32 hours after onset. Intussusception at ileocaecal junction. Same was reduced by expression and traction. The appendix was fully three inches in length which was removed. Both intussusceptum and intussusceptirus were viable so no reception was necessary. On second day after operation patient went into state of shock and death looked inevitable. With heroic stimulation child reacted well, was discharged in two weeks as cured.

SALVARSAN (''606'')

By Edgar G. Ballenger, M.D.

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After having administered 144 injections of the much discussed ''606'', it gives me pleasure to present to this Association my impressions concerning its usefulness. Undoubtedly we have in it a most wonderfully curative remedy. It does however, require more than ordinary care in the technique of its preparation and administration as well as in the estimation of appropriate dosage. Individuals vary so greatly in physique, temperament and idiosyncrasies, and the disease

is so variable in character and pathology in different stages that considerable experience and judgment are necessary in planning, prognosing and executing a curative treatment. So far I have had no ill effects of any consequence except occasional pain at the site of the injection and my last 60 injections have caused very little of this. I do not expect to have serious trouble until I am called upon to treat a patient already in a moribund condition or one who is hypersensitive to arsenical preparations. For the very frail or very ill patients the dose should be small and probably adminiistered subcutaneously according to the Wechselmann method. For the average robust patient without organic lesions the intravenous method is much better than the other ways of giving "606" and to Erhlich and many others seems to afford more durable results than the subcutaneous and intramuscular injections. One injection cannot often be expected to cure a patient and as others should be administered it is of great importance that the pain be mild so that the patient will be quite willing to take subsequent treatment. In this respect the intravenous method has another important advantage over the other modes of injection. While we have recently made wonderful strides in the cure of syphilis we have not made much advance in our ability to make a prognosis or to say exactly when a patient is **cured.** The time test is the only reliable one for we know the disease to be treachcrous and it is far better to give a patient more treatment than he needs than to give him even a little bit less than the amount necessary to cure his affection.

Histologic-Pathology.

Knowledge of the minute pathology of syphilitic lesions is of the utmost importance in affecting a permanent cure of syphilis for it enables us to understand the complicated conditions present and shows the necessity of subsequent injections or treatment regardless of the clinical cure or a negative Wassermann reaction.

Competent observers believe that syphilis is not a blood disease in the sense that sleeping sickness is, with organisms living in the blood in infinite numbers. The spirochaeta pallida is thought to pass through the blood in large members only once; (Wechselmann, Loewenthal and Cannon), the search for them later in the blood has furnished almost uniformly negative results. After having traversed the blood stream the spirochetes settle in the tissues in scattered foci; at these points lesions or recurrences develope. Ehrmann has clearly shown by injection preparations that spirochetes may become encapsulated in lymphatic channels or connective tissure spaces by the protective cell growth thrown out by nature in her efforts to limit the spirochaetal invasion. In such localities the organisms are protected from germicides circulating in the blood, no matter how potent the remedy. Thus is seen the necessity for second and third injections and previous or subsequent mercurial treatment.

The relapses which occur partake of the character of late recurrences in their localization—not being widespread as are the relapses after mercurial treatment. Such views are in accord with the well demonstrated facts that salvarsan is much more destructive to the spirochetes than is mercury and consequently fewer foci of infection remain to be destroyed by subsequent treatment. (Wechselmann.)

The Wassermann Reaction.

Lange has found that the blood test varies as to the time required for a negative reaction according to its strength at the time of the injection. Those with a strong reaction required from 4 to 5 weeks, while those with a weakly positive reaction became negative in about eight days. This probably accounts for the apparent lack of accord seen in the published reports on this reaction; another factor is the method employed in making the test. In myown work the time elapsed is too short to make this part of my report of any value. I think the important point is not how soon is the test negative but now long does it remain so.

Wechselmann says that he has not seen the irregular fluctuations between positive and negative as many observers have reported to be the rule with the mercurial treatment. The veiled or negative Wassermann reaction may become temporarily distinctly positive after an injection on account of the destruction of the spirochetes in isolated foci which previously were unable to produce this biological reaction. As a negative reaction does not remove the possibilities of encapsulated foci of spirochetes being still present, it seems wise to administer one or more injections at suitable intervals regardless of the apparent success of the first treatment. The average dose for a male adult in good health is .5 of a gramme intravenously or .6 subcutaneously or intramuscularly; for a woman about .1 gramme less, respectively; is a suitable dose; in case there is an or-

ganic affection or if the patient is greatly weakened by syphilis or other disease, the dose varies from one third to one half the amount first mentioned. For infants a dose of .015 to .02 of gramme is sufficient for the first dose as the rapid disolution of enormous numbers of spirochetes with the liberation of large quantities of endotoxines may cause a fatal injury to the feeble infant. Later a larger dose may be given. Preliminary feeding on the mothers milk after she has had a dose of "606" improves the condition of the infant and renders it more suitable for an injection of Salvarsan. The intramuscular and subcutaneous methods are probably better for infants than the intravenous. The dose should be increased at a subsequent injection, two to four weeks later. Where the chancre is seen early and can be completely excised or destroyed by hot air or cautery it is well to do so as Hoffmann has been able to demonstate spirochetes in the scars of the primary schlerosis years after the primary infection. (Wechselmann.)

The following is a somewhat incomplete record of the syphilitic affections seen in the patients treated with "606."

Chancres.

There were eleven chancres which all healed in much shorter time than has been usually required. The time naturally varied according to the extent of the loss of tissue. The induration gradually disappeared but was lower in disappearing than the lesion was in haling.

Secondary Eruption.

Twenty-one patients were treated during the eruptive stage. There was usually a fading in the redness within twenty-four to forty-eight hours. Several patients with a diffuse recurrent macular rash cleared up in a most astonishing manner in forty-eight hours. The large and small papules were slower and in a few instances were several weeks in disappearing and the pigmentation persisted a while after the skin became otherwise normal.

Fauces and Tonsils.

Seventeen patients showed involvent of the fauces and tonsils. It is in such processes that we see "606" at its best. Pain is almost invariably relieved in twenty-four hours; the ulcerations become clean in forty-eight and healed most rapidly. Many had stubbornly refused to respond to mercurial treatment.

Laryngitis.

Two patients were barely able to talk on account of the inflammation and edema of the larynx and vocal cords, both were distinctly better in thirty-six hours and within a few days were speaking in a normal manner.

Mucous Patches.

Eighteen suffered with buccal and lingual mucous patches of varying severity and duration; these lesions healed even more rapidly than did the pharingitis and tonsilitis. They were often much improved in twenty-four hours. In none of the patients were other measures employed than Salvarsan except in the chancres and open skin lesions which were kept clean and dusted with a bland powder or covered with an ointment of 20% argyrol.

Lymphatic Enlargement.

Nearly all of the patients except a few in the latent stage showed more or less well marked enlargement of the glands in inguinal, post auricular, epitrochlear and posterior cervical regions. The prompt effect of the remedy was usually less noticeable in these enlargements than in ulcerations of the skin and mucous membranes but in most instances where a sufficient time has elapsed they have become normal or nearly so. Three patients showed a distinct and sudden enlargement of the postauricular glands about the eighth or tenth day during a period characterized by a symptom-complex similar to a hypersensitive or an exanthematous condition. The glands and other symptoms became normal in a few days. It usually began with a chill which was followed by fever, sore throat, malaise, and indigestion. It appeared much as an acute follicular tonsilitis. No rash was seen on the skin as has at times been reported.

Gummatous Lesions.

Eight patients with active gummatous ulcerations were healed in a remarkably short time—complicating processes delayed the cure in one instance probably a week longer than would have ordinarily been required.

Fever.

Three patients at the time of treatment had a few degrees of fever, which became a little higher the first day then receded. At least two-thirds of my patients have had no rise of temperature and nearly all have shown a slight subnormal tempera-

ture on the first or second day following the intraveous injection. One patient persisted with a slight fever and rhumatoid pains which were not relieved until after a dose of calomel and a buttermilk diet. The rise of temperature seems much less noticeable after the intravenous than the intramuscular injections. Nausia, vomiting, chill and fever seem more likely to develop in patients with early secondary symptoms who receive the intravenous injection.

Rhumatoid Pains.

Four patients with rhumatoid pains and two with osteocopic pains were promptly relieved on the second or third day except the one previously mentioned who required purgation and a restricted diet to relieve his pains, fever and urticaria.

Epididymitis and Orchitis.

Two patients with luetic orchitis and one with epididymitis were gradually cured of these affections, three to five weeks were required for the parts to become normal.

Parynchymatous Sclerosis of the Tongue.

Three patients with well marked parynchymatous sclerosis of the tongue noted an early improvement in both the substance and surface of the tongue but the time has not yet been sufficient for a complete cure.

Palate.

Four patients with ulcerations of the palate—three in the hard and one in the soft—were promptly cured. A perforation had occurred in one patient before "606" was administered but the margins soon became healthy.

Rupia.

One patient with a rupial lesion on the left shin was well, except for the pigmentation, within a week.

Osteoperiostitis.

One patient was treated who had an osteoperiostitic node on his left tibia; this enlargement has gradually receded and in a short time will probably become normal.

Onychia.

One patient was cured of onychia limited to one finger nail.

Optic Neuritis and Retinitis.

Four patients have received treatment who showed atrophic changes in the optic nerve and one in the retina. No apparent improvement has followed so far in three. One patient thought his vision was worse but said that the failure had not been more rapid after than before the treatment. A second treatment has improved his vision. The facts so far reported do not make us at all apprehensive that the optic nerve will be injured by "606" as it was by atoxyl. It is claimed that in now more than 50,000 injections, not a single case of blindness can be attributed to "606."

Ear.

One patient with a slight deafness which occurred during a recent syphilis seemed only slightly improved by the treatment though all the other evidences of the disease disappeared very satisfactorily.

Another patient with a tertiary ulceration of the external ear made a very prompt recovery. Deafness has not developed in any one so far treated.

Third Nerve.

One patient was recently treated who had paralysis of the third nerve but I cannot say yet what the results will be.

Anus.

Five patients with anal mucous patches were quickly cured.

Hemipiegia.

One hemiplegic with a history of syphilis 34 years ago, rupia one year ago and a positive Wassermann reaction at the time of the treatment was not injured by .3 of a gramme of "606" subcutanously. The Wassermann became negative and so remained two and one half months later.

Locomotor Ataxia.

Four ataxics were treated. The crises and shooting pains were lessened in three—one, after receiving the second intravenous injection, felt a distinct improvement in locomotion and the strength in his legs. Otherwise there seems to have been little improvement in the condition of the patients.

Dementia.

One patient with an incipient dementia seemed distinctly improved. He is to receive a second injection.

Epilepsy.

One patient with syphilitic epilepsy of three years duration had one fit the second night after the injection and no other until he disappeared from observation five weeks later.

Latent Syphilis.

Nineteen patients with latent syphilis were given one or more injections.

Method of Injection.

Eighty-five intravenous injections were given; forty-six were administered intramuscular injections according to the Kromayer method and twelve the subcutaneous injection of the neutral suspension as recommended by Wechselmann. Fifteen have vomitted the first night after the intravenous treatment but without any great discomfort. Two have vomitted a day or two later.

Fever above 102° has only been observed in three patients and this was down to normal on the day following the treatment. Pain was complained of in twelve patients after the intravaneous injection. This was due in most instances to a slight escape of the solution subcutaneously. The pain was more severe in other methods of injection but much milder in the Wechselmann subcutaneous neutral suspension than in the alkaline intramuscular injection.

Recurrences.

No well marked or distinct recurrences have yet occurred although the three following cases are of interest in this connection:

One patient who received a subcutaneous injection and who made a most satisfactory recovery from large ulcerations over body and a most maligant and wide-spread tertiary ulcerations of the throat and nose, returned two and one-half months later with a feeling of soreness in his right nostril which had previously been ulcerated. It was so slight that it hardly should be considered a recurrence for I could not even say it was specific. He was given an intravenous injection. Another patient who received a subcutaneous injection at the onset of the secondary returned in two months with very small papules over the lower limbs. They were not typically syphilitic but he was given an intravenous injection. The third patient was one who received an intravenous injection .5 of gramme during a severe secondary eruptive stage. He later received several small intramuscular injections of "606" in liquid albolene. The papular rash was rather slow in disappearing. In six weeks there was a small patch of alopecia on the left side of the scalp which disappeared after three injections of the salicylate of mercury. No other patient has needed supplementary mercurial treatment. This patient probably could have been easily cured by an intravenous injection had it been convenient for him to have it at that time. One other patient who received two intravenous and one subcutaneous injection was placed on small tonic doses of protoiodid of mercury and potassium iodid merely as a precautionary measure as his disease had been most active and widespread.

I have seen one very severe recurrence three months after a subcutaneous injection, of .5 of a gramme, administered in another city. The profuse macula rash and mucous patches cleared up in forty-eight hours after an intravenous injection and have not yet recurred. I am expecting other recurrences in my own patients who have not received two or more intravenous injections and who will not return for a blood test at suitable times.

Technique.

When given intravenously the second injection may be given with certainty that the most of the first dose has been eliminated; otherwise, we may have ground to fear that a store of the medicine is still unabsorbed at the site of the original injection. As the intravenous seems so far superior only this technique will be described. Sometimes the flow of blood through the needle is so free that the operator feels convinced it is exactly in the right position until he sees a swelling under the skin which shows that there is an escape of fluid, which causes the patient both immediate and subsequent pain, Having treated 14 patients intravenously with about half of them exhibiting the above difficulty, I decided to try to improve my technique and herewith submit a plan which is both simple and effective in determining if the flow of fluid through the needle into the vein is satisfactory.

The patients arm is rendered thoroughly free from infection and ligated so as to block the venous blood. The tube of salvarsan having been previously dissolved in 23 drops of a 15% solution of caustic soda in a mortar, and then mixed with 300 c. c. of a warm, chemically pure sterile physiologic salt solution and poured through a filter into an ordinary graduated drain bottle, as shown in cut. The rubber tube from this is then connected to a "three way aspirating stock cock;" into it is connected a 16 or 18 gauge needle. Another, a similar bottle containing warm, sterile physiologic salt solution is connected by a rubber tube to a third opening in the three way cock—a glass tube being connected near the cock to show by the flow of blood into it when the needle has entered

the vein. If a connecting tube, having a bulbous portion blown in one side like a breast pump, is placed near the stop-cock with the bulb on the upper side it acts as a trap for air bubbles, which might not have been thoroughly excluded from the tubes, and thus makes it practically impossible for air to enter the vein. The stop-cock is turned so as to note the direction of the flow when in different position and finally adjusted so as to shut off the salvarsan and leave open the way from the needle to the salt solution. A clamp is placed upon the tube leading to the physiologic salt solution to prevent its escape (or, if preferred, it may be allowed to flow), while the needle is being introduced. When the needle is thought to be in the vein this clamp is released and the retort holding the salt solution is lowered just below the patient's arm. If blood is seen to flow freely through the glass part of the tube near the cock we may assume that the vein has been entered. The ligature around the patient's arm is then removed and the salt solution is elevated and allowed to flow to see if the passage into the vein is free or if a leak occurs from an imperfect entrance. If no swelling appears around the needle after 50 c. c. or less of the salt solution have been allowed to flow, the cock may be so turned as to allow the salvarsan solution to pass into the vein. The "606" is admitted slowly and discontinued if any untoward symptoms should develop.

The method prevents any loss of blood and eliminates the pain which would follow a subcutaneous escape of the salvarsan solution before the leak was discovered.

If the vein is not prominent, or if several unsuccessful attempts at introducing the needle have been experienced, cocaine should be injected; an incision made through the skin, and the vein exposed so that the needle may be accuratelyinserted. This is preferable to inserting needle without making the incision. After the salvarsan has been administered the wound is closed with one or two stitches and covered with a sterile dressing.

There are so many variations in the technique and as directions are to be found in every package of "606" we will not consider further this matter except to urge the use of intravenous injections after much preliminary study and with the greatest of care. The techinque of preparing and administering the remedy should be just as perfect as if performing a laparotomy. What is of equal importance is the examination of the patient, first, to be sure the affection is syphilitic; second, to be sure there is not serious organic trouble that might render dangerous the possible by-effects of salvarsan.

SALVARSAN, OR "606" IN THE TREATMENT OF SYPHILIS, WITH REPORT OF CASES.

By W. L. Champion, M.D., Atlanta, Ga.
Genito-urinary Surgeon; Wesley Memorial Hospital.

There has not been in recent years a discovery made that has attracted more attention than Ehrlich's Salvarson or "606" for the treatment of syphilis. The impression is prevalent that one dose will thoroughly eradicate the infection. This may be true in in limited number of cases, but it will take some time to know if this can be accomplished and also to know the true value of the preparation and the best method of administering it. This impression has already done harm, and if not corrected by the physician who administers the new remedy, the patient leaves with the false hope of a cure to return later with more serious evidences of the dread malady.

That Ehrlich has discovered a remedy which is distinctly in advance of any heretofore used in the treatment of syphilis, there can be no doubt. A single injection is equal to several weeks' or months' treatment with mercury, and the patient avoids the unpleasant task of taking medicine daily. Its action is prompt in cases where mercury has failed and the gain in weight and improvement in appearance and well being is frequently marked.

Where immediate action is needed, we have in salcarsan a valuable adjunct to our old and tried anti-syphilitic remedies.

The promptness with which it destroys the spirochete, and causes the healing of mucous membrane lesions certainly makes the syphilitic less dangerous to society from the standpoint of infection. While mercury is destructive to the spirochete, it cannot be as effectual as salvarsan, judging from the promptness with which lesions of the mucous membrane, skin and nervous system disappear.

That relapses will occur after a single dose there can be no doubt, as will be shown in the report of cases to follow. This fact will make it necessary to repeat the dose as each individual case may require, either from the return symptoms, or a positive Wassermann reaction. I am using the preparation both intramuscularly and intravenously. When

injected into the muscle it is slowly absorbed, and makes a hard mass that is sensitive to the touch for several days and sometimes two or three weeks.

The freedom from pain after the intravenous injection gives it the advantage over the intramuscular, and the fact that it is thrown direct into the circulation makes its action more powerful and certain.

It is stated by Weschellmann that the arsenic is eliminated more quickly when the preparation is administered intravenously—that is, in three days, while in the subcutaneous method it takes twelve to fourteen days. The fact that arsenic has been found in the gluteal muscles in patients brought to autopsy several weeks after having had an injection may account for some failures, the drug not being absorbed sufficiently.

With the discovery of the siprochete, the Wassermann reaction and Ehrlich's salvarsan, there has been awakened new interest in the management and treatment of syphilis, that is invaluable to the human race, as we now have a more definite idea as to when or whether a patient is cured.

The newspaper and magazine advertisements the new remedy brought forth, have aroused the old syphilitic who has been taking his favorite prescription, or consulting the corner drug store man to go to his physician for an examination, to have his blood tested, or get a dose of "606." While the sensational articles that have appeared in the lay press claiming a one-dose cure for syphilis have been harmful, the knowledge the public has gained and the interest manifested will be helpful, as I believe the education of the public in regard to venereal diseases, their dangers, prevention and pro-

Picture of Patient Taken April 3rd, the day he was given 0.6 gramme Salvarsan or "606" Intramuscularly.

per treatment is the only solution of the problem.

With each dose of salvarsan there are directions given—how to prepare the mixture and how to administer it, which, if followed, will make the preparation harmless if used in the proper cases. In administering the dose intravenously I use the vein at the middle third of the forearm, cocainize at the point of incision, expose the vein and make a slit large enough to admit a small

Same Patient 13 days Later.

canulae. I use a canulae in preference to a needle forced into the vein, so as to prevent the solution from escaping into the surrounding tissue. But this can be avoided when the needle is used, by having twocontainers, one with normal salt solution and the other with the salvarsan solution, using a three-way stock cock, so as first to allow a small quantity of the salt to flow into the vein to

see that the needle is in proper position—then cut in the salvarsan solution. It should require ten or fifteen minutes for the 250 or 300 cubic centimeters of the solution to flow into the vein.

For the intramuscular injection the solution or suspension should be neutral which will lessen the pain. I have not used a drop of acid in making the mixture in any case I have treated. Place the contents of an ampule in a glass mortar, add ten drops of caustic soda (15%) solution, rub well and then add five cubic centimeters of sterile water and mix thoroughly. The emulsion will be neutral nine times out of ten. If found acid, add another drop of soda solution. The mixture when taken into the syringe for injection measures five cubic centimeters. I use a record syringe with a large platinum needle that will carry the suspen-

sion. Clean the gluteal region with alcohol, paint with tincture of iodine and inject deep into the upper and outer portion of the muscle. I insert the needle first so as to see that a vessel is not punctured, then connect the syringe and press the piston slowly until the syringe is empty, that is to say, if the entire dose of 0.6 gramme is to be given. Massage gently over the point of injection so as to distribute the solution. Of the large number of cases injected I have not had a single abscess, nor has it been necessary to open up any case at the site of injection.

As advised, I administered the remedy to the first six cases in the hospital, seeing no elevation of temperature, very little pain, in fact, only three out of fifty-four were given morphia, so I gave the dose to the other patients in my office.

The fifty-four cases in this report are private patients that I have been able to keep in touch with since giving the remedy. As the report would be too lengthy to give all the cases in detail, only those of interest will be reported. Those cases that have shown a relapse I do not attribute to any fault in the techinque of administering the drug, as it was given in the manner as those in which there was such a rapid disappeareance of symptoms, and still free of any evidence of the disease.

Case 1—Papulo-squamous circinate patches on face, arms and legs. Patient had taken mercury two months, did not improve. January 26th, 0.6 grams salvarsan intramuscularly; January 29th, patches fading, and on January 31st, had disapppeared. February 2d Wassermann negative; March 1st syphilide appeared on right ear; March 5th, patch ulcerated, put patient on injections of mercury and in two weeks no evidence of the trouble.

Case 2—January 23rd, patient came for treatment with hard sore in meatus almost closing the canal, great difficulty in urinating, Wassermann positive. Patient not satisfied with result of blood test, waited for further evidence. January 30th, marked sore throat, headache and macular eruption covering abdomen, back and arms. Same day patient was given 0.6 gramme salvarsan. Throat symptoms disappeared in twenty-four hours, eruption on body in seventy-two hours and sore in meatus healed in seven days. February 10th, Wassermann positive. February 11th, second dose of 0.6 gramme given. March 15th, Wassermann negative, April 15th, patient had no evidence of syphilis—apparently cured.

Case 3.—Syphilis eleven months duration. Wassermann postive. January 31st given 0.6 gramme salvarsan. Five weeks later Wassermann negative. Has had no other treatment and ten weeks since dose was given, no evidence of trouble.

Case 4—Chancre in meatus and macular eruption covering entire body and extremities. January 31st, given 0.6 gramme salvarsan intramuscularly. In seventy-two hours the eruption had practically disappeared and chancre healing nicely. No other evidence of syphilis, no Wassermann made.

Case 6.—Syphilis five months duration, mucous patches on lips and tonsils ulcerated. February 5th, given 0.6 gramme salvarsan. February 10th, ulcers disappeared. February 13th, mucous patches appeared on lower lip, and on March 1st, syphilide appeared in palm of left hand. Patient put on mercury and syphilide disappeared in three weeks. April 16th, patient hoarse, administered 0.6 gramme salvarsan intravenously and on April 19th voice was clear.

Case 7.—Contracted syphilis in July, 1909; mercury and iodide taken about nine months. February 9, 1911, noticed left foot turned inward; had lost control of middle joint and toes, sensation lost in calf of leg, muscles flabby, and patient nervous and memory failing. Wassermann postive. February 9th, administered 0.6 gramme salvarsan intramuscularly. February 13th, patient feeling better, regaining control of leg and foot and sensation returning. February 21st, had gained five pounds, foot and leg almost normal. March 9th, perfect use of leg and foot. Sensation normal and patient had gained fourteen pounds. Wassermann negative.

Case 13.—Syphilis two months duration. both tonsils badly ulcerated, patches around arms and general grandular enlargement. Had been taking patent medicine called B. B. B. February 15th gave 0.6 gramme salvarsan intramuscularly. February 17th, tonsils clean and healing and throat symptoms better, patches around arm not improved. March 3rd, throat symptoms returned. March 4th, second dose of 0.6 gramme salvarsan March 7th, patient improving. March 15th, patches around arms healed. March 20th, tonsil ulcerated, put patient on mercury.

Case 15.—Student, syphilis six months duration. Had been given dose of salvarsan by another physician three weeks before consulting me. The first dose cured syphilide of the palm, but did not improve the laryngitis which was very severe, nor patch on tongue. On February 16th, 0.6 gramme of salvarsan. February 20th, voice clearing up and on February 26th normal. On April

1st. two mucous patches appeared on lower lip. April 9th gave 0.6 gramme salvarsan intravenously. April 13th, patches had disappeared and voice normal.

Case 17.—Syphilis four months duration. Syphilide of tongue which had persisted in spite of mercury, potash, cacodylate of soda, and a visit to Hot Springs. February 18th, 0.6 gramme salvarsan. April 15th, no improvement.

Case 20.—Upper and lower lips covered with muocous patches and sides of tongue ulcerated. ebruary 19th, full dose of salvarsan; March 3rd, lips and tongue normal.

Case 26.—Intense papular eruption covering both arms and legs had been present two weeks. Patient had been treated several months before mercury and potash. March 2d, gave full dose of salvarsan intramuscularly; March 16th, very little of eruption left, and March 27th skin clear.

Case 33.—Syphilis fourteen months duration. Papulosquamous patches on arms and legs. March 19th gave 0.5 gramme salvarsan intravenously, March 25th patches gone.

Case 35.—Physician, chancre on thumb in December, 1910. Took mercury badly. March 21st, laryngitis, very hoarse, throat ulcerated, pains in elbows and knees. Patient very nervous and had not slept in several nights. March 21st, gave 0.6 gramme salvarsan intramuscularly. In twenty-four hours voice clearing rapidly and in forty-eight hours practically normal. The pains in throat and joints were so quickly relieved that patient slept well the first nightafter the injection. April 15th, no return of symptoms.

Case 36—Female, infected with syphilis in November, 1910. Had been given mercury and potash. Mucous patches in mouth and and scaling syphilis of palms and soles. March 21st 0.5 gramme salvarsan, March 27th, mouth normal and syphilides on hands and feet disaapearing. April 7th, patient apparently well.

Case 41.—Contracted syphilis in 1906, Wassermann postitive, deep tubercular syphilide behind left ear and in neck, right elbow three inches larger than left. Patient was in constant pain and had slept very little in several weeks. The syphilides had been on neck and ear for three months. April 3rd, 0.6 gramme salvarsan intramuscularly. In forty-eight hours the patient was free of pain, and in seventy-two hours the sores were cleaned off and healing. Elbow that was swollen reduced one inch. On April 17th, two weeks after injection the sores were almost healed, as the accompanying pictures will show.

As it has been only a few weeks since the drug has been administered to a number of the cases the Wassermann test has not been made.

One case of tables with negative Wassermann, no improvement was noted. In another with a positive Wassermann, the pains were lessened, the patient gained in weight and was able to indulge his sexual appetite.

Of the fifty-four cases treated, ten had no lesions of the mucous membrane or skin where the effect of the drug could be watched, but theseten gave positive Wassermann or had evidence of the disease a few weeks before. Forty-six had lesions at the time the drug was given, and all visible lesions healed in forty-three cases, two improved, but did not heal entirely. Six cases out of the fifty-four relapsed and were either given the second dose or put on mercury.

Since presenting this article before the association two and half months ago I have been administering salvarsan almost entirely by the intravenous method and consider it superior to the intramuscular or subcutaneous.

Discussion on Dr. Ballenger's and Dr. Champion's Papers.

Dr. J. L. Campbell, Atlanta: This is a subject that all of us feel vitally interested in, coming as it does with vaccination and with the antotoxins of various kinds. These two papers have presented the question very well.

I have had but a small experience in the administration of this new remedy; the results, however, have been most gratifying. Dr. Ballenger in the beginning of his paper took up the effects that occurred as the result of the administration of the drug. In my personal experience I have had no ill effects except in two instances when the ill effects were quite trifling. In these two cases there was some nausea and vomiting which occurred about three hours after the drug was administered. In one case on the third day there was a slight eruption which looked like that of scarlet fever. This patient complained of most intolerable itching. After a few hours, however, this all passed off. In each case there has been a slight purgation during the first twenty-four or forty-eight hours after the drug was given. In the cases in which I have had secondary symptoms (macular eruption) this eruption has faded in twenty-four or forty-eight

hours. I have in mind another in which the eruption faded away in from five to seven days. Another patient had an indurated chancre which had persisted for about three months and which gave no evidences of healing. After using salvarsan, however, healing of the chancre occurred in ten days but the induration persisted. Following the second dose of salvarsan this induration cleared up and this might be attributed to the iodide of potash that was given. Whether there was an idiosyncrasy present in this patient or not I do not know, but the site of the chancre swelled to the size of a hen's egg; there was considerable salivation and the jaws almost became locked. This all passed off in two or three days. The patient was placed on mercury and progressed very satisfactorily.

There is another class of patients on whom we get splendid results from the use of "606." I have in mind a patient who had been treated for syphilis for three years; he was taking mercury and iodide of potash and was under treatment more especially because of his throat condition. He received little benefit from the use of mercury or the iodide of potash. He had a small ulcer on the roof of his mouth, as well as one of those nasty crusty ulcers of the foot which was accompanied with much pain. Twenty-four hours after the first dose of salvarsan the pain entirely disappeared from his foot and in ten days the ulcers had entirely healed. At the end of three weeks the tongue was perfectly cleaned. In all he received four or five doses, but since the administration of the second dose the results have been permanent.

Dr. M. B. Hutchins, Atlanta: I am glad to see a certain amount of conservatism shown in the estimation of the value of this new method, although the results obtained by all of us who have used the treatment have, in most instances, been brilliant and quite striking. But I want to lay stress upon the importance of conservatism in the application of any new method. Every one of you have seen cases of syphilis, or supposed syphilis without any real diagnostic evidences; they apply to you for treatment. Just like the use of the X-ray ten years ago. I think I was the first man in the South to use this treatment. You all know the history of the X-ray. When this was first brought into vogue, every man who had the money got a machine. Today many of these same machines are in the doctors' offices covered with dust. The reports regarding the efficacy of the X-ray were as striking ten years ago as the reports we are now receiving regarding the value of this new remedy of Ehrlich's. We know nothing as yet regarding the permanency of the treatment; we do believe that the treatment is a magnificent symptomatic one. I feel, however, that wonderful help may be had in the institution of this treatment, but it should be remembered that there are cases that can be curde by almost any treatment instituted. By proper administration of mercury the skin lesions can be promptly cured in many instances. The point, however, that I wish to lay particular stress upon is this—Do not be carried away by this new method of treatment and exclude other and tried methods which have proven to be of such value. I think that very often harm is done to the morals of the people by the enthusiasm displayed over these new and untried methods. Take the history of the X-ray and then the history of tuberculin. When Koch first introduced tuberculin it was believed to be able to cure all cases of tuberculosis. Then came the X-ray and now comes salvarsan, or "606." I wish to impress upon you the necessity of great care in the employment of this treatment.

Dr. Dunbar Roy, Atlanta: I should like to add one word in regard to the use of this new remedy of Ehrlich's in nasal and throat troubles. While I have not given these injections myself I have had them given by friends and to those patients of mine who suffered from syphilitic lesions of the pharynx, tonsils and nose. In almost all of these cases the results have been marvelous. I think that in this remedy we have one of the greatest advances in medicine that has been made during the last few years. However, we are as yet only at the beginning, and time only will tell just what it can accomplish. We must wait several years and watch the cases that are being reported at the present time; it will require some ten or fifteen years to pass before we can say with any feeling of assurance just what the results of this new treatment will be. Do not discard the old treatment of syphilis. Do not be too enthusiastic over the use of salvarsan.

There is one particular point regarding the use of this new remedy in conditions about the pharynx which shows its effectiveness, that is, in syphilitic ulcerations of the soft palate, those which look at though they might perforate and produce deformity. If we have a remedy which will cure such a condition or at least arrest its progress for twenty-four, thirty-six or forty-eight hours, we may be able to prevent the perforation

occurring and the resulting deformity. Therefore, I think this new remedy may prove very effective in such conditions. It certainly is of some use in these conditions. If these ulcerations have started in the soft palate, or in any other part of the pharynx, we should attempt to keep them from perforating the parts and thus prevent deformities. Keep thetreatment up and stop the process extending and an immense amount of good will without doubt follow.

Dr. R. R. Daly, Atlanta: With what has been said in regard to conservatism in the use of this new remedy I think all will agree. I wish to report one case in which waiting did not seem to be at all necessary. About two months ago I saw a patient, forty-one years of age who appeared to have an early presbyopia. A careful examination of the retina disclosed a plastic exudate along the blood vessels. I questioned this man regarding his having been infected with syphilis. He was a married man and a travelling man and at last he confessed. I advised the giving of "606." In one month from the giving of this agent his vision which was 6-9 on one side and 9-12 on the other was brought back to the normal and the plastic exudate entirely disappeared. After a month he reported that he was entirely well. Whether this will prove to be a permanent cure or not, time only will tell.

Dr. J. E. Paullin, Atlanta: Dr. Ballenger in his paper mentions the fact that frequently patients had a diagnosis made of syphilis and after a very careful examination gave a negative Wassermann test; however, after the injection of salvarsan the Wassermann reaction became postive. I have observed this on several occasions.

One naturally asked if the Wassermann reaction could be considered positive. This question I have freqnetly been asked and I always answer, "No!" I know of nothing that really is positive in medicine. I know that in a great many cases in which the Wassermann reaction is positive we must eliminate certain diseases such as scarlet fever, yaws, etc.; such conditions must be eliminated and then if there appears a positive Wassermann reaction we may look somewhere in the body for a focus of syphilitic infection. I have examined the bloods many times after the patients have taken the Wassermann test, some after one and some after two, and one after three days. The length of time is too short to permit of the drawing of conclusions. The making of this Wassermann test is an exceedingly complicated one. The test itself depends upon the phenomenon of hemolysis, and it requires skill and time to make the test. What is of the greatest importance, however, is to judge the reaction. When one is not given any history, the difficulties increase. It should be born in mind that certain agents will cause a positive reaction, and some partial reaction. The reaction should not be called a positive one unless there is an absence of hemolysis. It should be born in mind that certain agents will cause a positive reaction, and some a partial reaction. The reaction should not be called a positive one unless there is an absence of hemolysis.

In the observations that I have personally made of the blood of these indviduals I know of nothing so remarkable as the results from the use of salvarsan in the treatment of syphilis.

Dr. E. C. Thrash, Atlanta: It should be remembered that one may get a negative Wassermann reaction and still the patient have syphilis. I have been in doubt whether salvarsan is a chemic poison which acts upon the syphilitic germ, or whether it is a synthetic antigen. The latter responds more rapidly to the administration of salvarsan. After the administration of the remedy antibodies appear which destroys the syphilitic germ; then the reaction may be more prompt and positive than before the remedy was taken; the effects subside gradually only after many days and even weeks. The antigen stimulates the formation of antibodies and there is caused a dissolution of the syphilitic germs. In the case of a chemic poison it acts directly upon the germs and kills them. These are questions that I have been asked many times and questions that I could not answer with any degree of satisfaction. We cure a large number of diseases by the use of antigens, or substances which stimulate the production of antibodies. This is one truly scientific method of treating diseases and it is coming more and more in vogue as we learn more of the intigens. It would be a long stride in the right direction if we knew a method for manufacturing synthetic antigen. We wish to kill these germs promptly. If they are not all destroyed the disease will recur and the patients will be as bad as before. I am not satisfied whether there are synthetic antigens or chemic poisons formed after the administration of salvarsan.

Dr. F. Phinizy Calhoun, Atlanta: I think it is a well known fact that before the administration of salvarsan the eyes, nose and throat should be carefully examined; one should be very sure that there is present no

disease of the optic nerve or of the retina. Sudden blindness has been caused by the administration of these arsenical preparations. The eyes always should be examined with care before the administration of this remedy It should be remembered that some years ago when the tuberculin and the Calmette reactions were in vogue in making tests, that one of the reasons they were discontinued was because of the development of eye lesions. Eye lesions from a conjunctivitis to the old macular lesions implies a contraindication to the use of this new remedy. Every patient should have his eyes carefully examined before salvarsan is injected. Several cases have been reported in which after the injection of salvarsan an optic neuritis has developed as well as swellings about the papilla. In cases of incomplete optic atrophy salvarsan has been administered without any effect whatever.

Dr. S. T. Barnett, Atlanta: I have had experience with the administration of salvarsan in four cases only. Two of these had an optic atrophy; the injection of this drug was without any beneficial effect whatever although both men left the hospital in the belief that they were better. There was no change, however, in the condition of the optic nerve or in the retina.

The third case was one of acute iritis with definite secondary syphilides. Two days after the administration of salvarsan the iritis became worse and the anterior chamber of the eye filled with fluid. Under local treatment and the evacuation of this fluid in the anterior chamber the patient improved.

The fourth case was one of ulceration of the soft palate. The patient was a tramp and was brought to the hospital in a very emaciated condition. Injections of salvarsan were given him but no favorable influence upon his condition could be demonstrated. He died four weeks after admission probably from sheer starvation.

Dr. E. T. Gibbs, Gainesville: I should like to inquire regarding the total number of deaths and of blindness that have occurred as the result of using salvarsan. I have assisted in the giving of this remedy in sixteen (16) cases and I have been able to make about forty-five (45) observations. The Wasserman reaction was disappointing in about seventy per cent. (70%) of the cases. I think there have been reported about thirteen or fourteen cases of deaths. I should like very much to know the number of deaths and the number of cases of blindnessthat have been caused by the use of this agent.

Dr. G. E. Ballenger, Atlanta: (Closing the discussion.) In cases of far advanced nervous affection I do not think that the use of this agent can be very effective. Fair (?) has investigated some four hundred thousand (400,000) injections and he has reached the conclusion that there was not a single case of blindness caused by the injection of "606." Some patients have nearly gone blind after taking these injections but they were cured after the second dose. The danger in giving these injections is practically nil. One should always have the eyes examined first. Fever, nausea, vomiting, etc., may occasionally arise after the giving of these injections. Two-thirds of these patients show no rise of temperature at all. They usualy have a subnormal temperature and especially on the second day. Most of the patients are not even confined to the hospital. After the giving of the injection they are advised to return home.

I am unable to answer Dr. Thrash's question.

I think there are two factors to be considered in the cure of these patients. Salvarsan is a germicideal agent. That some antibodies are produced is known. You must remember that babies are cured of this disease by nursing the mothers who have been given salvarsan. There are probably other factors which should be considered in the cure of this disease which we do not as yet know.

With regard to the number of deaths that have followed the administration of salvarsan I think about fifteen or sixteen cases have been reported. Most of these cases have been attributed to "606" itself, but it should be remembered that many of these patients when they received the injection were in a moribund state.

Dr. W. L. Champion, Atlanta: (Closing the discussion.) With regard to the eyes of our patients. in every case the eyes were examined before we administered this remedy. In only one case of syphilis did I refuse to administer "606." This was a patient that Dr. Calhoun observed and reported trouble with the optic nerve. Examination of the urine was made in these cases as well; this was to learn if the patients were in good physical condition as regards the kidneys; examinations were made of the lungs and heart as well. I recall one patient who had a cardiac murmur and this was in a case of tabes dorsalis. Dr. Paullin made the Wassermann reaction test and it was positive in this patient.

With regard to the number of deaths that have followed the administration of this new agent, I have noticed as has Dr. Ballenger

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ANONYMOUS CONTRIBUTIONS, whether for publication, for information, or in the way of criticism are consigned to the wastebasket unread.

NEWS: Our readers are requested to send us items of news of a medical nature, also **marked** copies of local newspapers containing matters of interest to physicians. We shall be glad to know the name of the sender in every instance.

but fifteen or sixteen cases reported in the literature.

A few days ago I used on three cases cacodylate of soda, an agent that has recently been reported on by Dr. Murphy of Chicago. One case improved; the other did not.

To the Members of the Medical Association of Georgia.

With this our first issue though a little late in coming, which causes us to appreciate it perhaps the more, we congratulate the State Association on the appearance of its Journal "Our Journal."

The publication of a journal is the natural out come of progress for we have progressed materially in the last few years but not enough. As chairman of your board of councilors the object of this communication is to appeal to every member of every county society in each congressional district to "get busy" come to the aid of your secretary and your councilor. Let each member of the association resolve to procure at least just one member if there is a brother doctor in your county eligible who for any reason has let his membership lapse and his dues are unpaid get in behind him; get him back. He needs the association both county and state, the association needs him.

Do this and see what results will be accomplished. In this our first year our membership will be doubled. It can be done and very easily too. Will you help to do it?

Tell him we are out of the old rut—we are doing things. A journal will come to him once a month, without any cash contribution, therein will appear every day experiences from both city and country doctors. We as councilors are not complaining, but we have not had the co-operation we should have had. The time lost, the labor expended, has been given to you freely without price to the end, that we might build up a great state association for the betterment of the profession and in making better doctors through the medium of efficient enthusiastic county societies and through the bettered and improved men, humanity thereby lessened its suffering, its pangs of pain alleviated. So as you read this stop, reflect, resolve this moment to come to our aid, to the aid of all the organizations composing the component societies throughout the state. I am not writing this to the secretaries but I am writing to you, every member of the association of Georgia individually and to all its members collectively. Your board of councilors have faith in your loyalty, we believe you will help us. What a glad meeting at Augusta next April should our secretaries report a membership and circulation of twenty-five hundred. We await hopefully the results. It can be done. It should be done.

W. W. PILCHER,
Chairman Board of Councilors.

DR. DUNBAR ROY IN HONOLULA.

Dr. and Mrs. Dunbar Roy, of Atlanta, are now in Honolula, having continued their journey from Los Angeles, where they were in attendance at the American Medical Association meeting.

PRESIDENT-ELECT JACOBI.

Having for some years spent his winters in Georgia, and being so well known to the profession of this state as well as to the whole world the following short account of the life of Dr. Abraham Jacobi, the recently elected president of the American Medical Association, is abstrated from The Journal, for the satisfaction of our readers.

Mutual honor in the highest sense of the term was the election at Los Angeles of Dr. Abraham Jacobi to the presidency of the Association. Few, if indeed any, men in the American medical world today can look back on as active a life as that of Jacobi. As a teacher, practitioner, hospital physician and worker in medical organizations he has been a leader for half a century.

His contributions to medical literature, which are legion and internationally well known, his brilliant attainments as a practitioner, his organizing and administrative talents, and last, but not least, his tremendous activity as a public-spirited citizen of his foster-land betoken a career unique in our annals. Now, at the age of eighty-one, is conferred on him the highest honor which the medical profession in America can bestow on any of its members.

Born at Hartum bei Minden (Westphalia) May 6, 1830, he belongs to a generation which produced more great men than perhaps any single generation before in European history, that namely which created the revolution of '48. In appreciation of his idealism, Jacobi, like so many others, in the years 1851-53 was imprisoned again and again, but when finally liberated he, like Carl Schurz, Siegel and Krackowizer, sailed for America, henceforth the center of his hopes for the future, landing in this country as an unknown and all but penniless exile.

He had taken his M.D. degree at Bonn with a dissertation "De vita rerum naturalium" before his imprisonment in 1851, and at once entered on practice as a physician in New York City, soon becoming well known in his profession. In 1857 he became a lecturer on infantile pathology in the College of Physicians and Surgeons, and in 1860 he was called on by the New York Medical College to occupy the first chair established for the diseases of children in America. In 1870 he resigned to become clinical professor of the same branch in the College of Physicians and Surgeons, occupying this chair until 1902, when he was made emeritus professor. In 1895 he was offered the chair of pediatrics in the University of Berlin, but declined the honor, feeling that the ties binding him to America were too strong.

To review in detail the carrer of Abraham Jacobi, however, would be to touch on every important phase of progress of American medicine during the last half century. We shall here point only to the facts that he has done more than any other man to place pediatrics on a firm and scientific basis by his epoch-making conception of infant-feeding which he calls "the most important and momentous question of all times and before all nations," and that he was the first in this country to inaugurate systematic and special clinics for the diseases of children.

In medical societies Dr. Jacobi has been active and prominent. He has been president of the New York Obstetricil Society, Pathological Society, the county society, the state society, the New York Academy of Medicine, the American Pediatric Society, the Association of American Physicians, the Deutsche medizinsche Gasellschaft of New York and the American Climatological Association. He was a prime mover in the founding of the section on pediatrics in the New York Academy of Medicine and of pediatrics of the American Medical Association in 1880, of the section on pediatrics in the New York Academy of Medicine and of the American Pediatric Society. He is an honorary member of innumerable societies in this country and abroad. Few American medical men have been so prominent at international meetings as Dr. Jacobi.

Meeting of the Council of the Medical Association of Georgia.

The regular meeting of the Council will be held at the DeSoto Hotel, Savannah, Aug. 7th, at 3.00 P. M.

The First District Medical Society will convene in Savannah at the same time.

DR. FLOYD W. McRAE.

The entire profession of the state will appreciate the honor bestowed upon our colleage Dr. McRae by his election at the Los Angeles meeting of the American Medical Association, to the office of Vice-President of the Association. This is a well deserved compliment to Dr. McRae and to the Medical Association of Georgia, of which he is such a useful member.

FIRST DISTRICT MEDICAL SOCIETY.

The First District Medical Society will hold it regular meeting at Savannah, August 7th. A very interesting and entertaining program has been arranged.

THE LOS ANGELES SESSION.

The Sixty-Second Annual Session of the American Medical Association, held at Los Angeles, California, June 26-30, 1911, has passed into history as a very successful affair. The attendance was much beyond expectations, and an unusually large proportion of members were accompanied by their wives and daughters. Especially considering the location of the meeting place, the attendance was a surprise to many. Also, contrary to the expectation of some, the weather was delightfully cool and pleasant. Although some discomfort was felt on the trip across the plains, Los Angeles had ordered cool and comfortable weather and the order was filled. The social side of the meeting was on a lavish scale and quite ably managed. Our Los Angeles confreres have indeed set a high standard in this regard. The proceedings of the House of Delegates took place with despatch and many important matters were decided.

MEDICAL DEPARTMENT OF THE UNIVERSITY OF GEORGIA.

The Legislature has recently enacted that the Medical Department of the University of Georgia, located at Augusta, be placed upon the same basis as the other branches of the University.

THE COMMITTEE ON PUBLIC POLICY AND LEGISLATION.

The Committee on Public Policy and Legislation, is endeavoring to have passed at the present session of the General Assembly, a Medical Practice Act, in conformity with the expressed resolution of this Association. All members are urged to discuss this matter freely with their Representatives.

UNAUTHORIZED USE OF A PHYSICIAN'S NAME.

To the Editor:—A book entitled "Large Fees and How to Get Them," has recently appeared, published by one W. J. Jackman, which purports to contain an introductory chapter written by me. The book is being advertised as having been jointly written by one Dr. A. V. Harmon and myself. I desire to state that my name is being fraudulently used. I know neither the publisher nor Dr. Harmon, nor did I ever write a line for the book. The introductory chapter and several later chapters—for which latter, credit is not given—were, without my permission, taken bodily from my "Medicine as a Business Proposition." There is no Dr. A. V. Harmon, in either the Blue Book or American Medical Directory. He is in my opinion a blind, the authorship of the book resting with the publisher. All persons selling or circulating same, or advertising or reviewing the book in connection with my name, do it at the risk of legal complications. I would respectfully ask the medical journals of the country to copy this letter verbatim, thus warning the profession against what, so far as the use of my name is concerned, is a fraud, pure and simple. The title of the book alone should condemn it, while as for much of its contents. the less said the better.

G. Frank Lydston, M.D., Chicago.

MEMBERS PRESENT AT THE MEETING OF THE AMERICAN MEDICAL ASSOCIATION

The following members of the Medical Association of Georgia were present at the Los Angeles meeting of the American Medical Association: Dr. Floyd W. McRae, Atlanta; Dr. Dunbar Roy, Atlanta; Dr. F. Phinizy Calhoun, Atlanta; Dr. W. C. Lyle, Augusta.

BOOK REVIEWS.

International Clinics.

A quarterly of illustrated clinical lectures and especially prepared original articles.

Volume II. Twenty-first series, 1911.

Philadelphia and London—J. B. Lippincott Company. Pages 297. Price $2.00.

The latest volume of this popular quarterly which has just come to our desk contains an exhaustive article by Dr. Fenton Turch, of Chicago on "Diseases produced by the Bacillus Colix Communis in the Intestines." Our readers will recall with pleasure the entertaining lecture of Dr. Turck, upon this most interesting subject at the last meeting of the Medical Association of Georgia, at Rome. The volume contains a number of other articles of great value to the general practician for whom it is especially adapted.

"GETTING" DR. WILEY.

Those who have followed the history of federal pure food legislation in this country know that whatever of good in this work has been accomplished has been more largely due to the indefatigable efforts of Dr. Harvey W. Wiley than to any other one man, or possibly to any group of men. Dr. Wiley is one of those rare public officials who be-

Briefly, the charge against Dr. Wiley is that

lieve that laws that have been passed in the interest of the public should be enforced in the interest of the public. And he not only believes it, but he acts on it.

It is probably no exaggeration to say that no law that has been placed on the federal statute books in recent years has been enforced with the same energy and freedom from favoritism as has the federal Food and Drugs Act of June 30, 1906. It is a regretable fact that the sympathies of Dr. Wiley's superiors in the Department of Agriculture have always seemed to be in the direction of those interests that have amassed fortunes by adulterating drugs adn doping the food-supplies of the country.

If the pure food law has been a powerful instrument wielded in the interest of the people instead of a musty dead letter on the statute books, it is because the chief of the Bureau of Chemistry—Dr. Harvey W. Wiley—has made it so. He has made it so in the face of opposition such as cannot be conceived by those not acquainted with the actual facts. And that opposition, to the shame of the government be it said, has not come exclusively from outside sources.

* * * * * * * *

These points, which have been discussed in The Journal before, are merely recalled to make clear the enormous handicap under which Dr. Wiley has been placed in his attempt to enforce the Food and Drugs Act in the public's interest. If space permitted, it might also be well to recall the high-handed way in which the Secretary of Agriculture, after his conversion to the benzoate camp, brought to bear the enormous influence and prestige of his department in jamming through the convention of the Association of State and National Food and Dairy Departments a set of resolutions endorsing the report of the Referee Board on the use of sodium benzoate. Reference might also be made not only to Collier's statement that Vice-President Sherman showed great solicitude for the Duffy Malt Whiskey concern when Dr. Wiley's subordinates were investigating it, but also to the allegation that Mr. Sherman's son is financially interested in the firm of catsup makers that was chiefly responsible for the creation of the Referee Board.

Enough has been said, however, to make clear to the reader how onerous Dr. Wiley's position has been. Now comes the report from Washington that Dr. Wiley's enemies have at last found a technical point on which they can ask for his dismissal, and of course, they are playing their hand for all it is worth. he employed a pharmacognosist of national standing, Dr. H. H. Rusby, in such a way as technically to violate the rules of the department. Dr. Rusby held his services at $20 a day. Under the law recently passed an expert can be hired at a salary not to exceed $11 a day. Dr. Wiley, believing that the public interest were best conserved by having the services of a big man for part of the time rather than the services of a second-rate man all the time, recommended that Dr. Rusby be employed for so many days during the year, that the maximum salary permitted by the department would total the minimum remuneration that would be accepted by Dr. Rusby. This agreement was not made privately, but had been taken up by Dr. Wiley with his superiors and apparently agreed to by them. Now Dr. Wiley's action in this matter has been passed on adversely by what is referred to as the Committee on Personnel, a committee composed of men who are known to have been open antagonists, if not actual enemies, of the chief of the Bureau of Chemistry. Attorney-General Wickersham—another gentleman whose solicitude of the "interests" is well known—recommends that the President approve the dismissal of Drs. H. W. Wiley, W. D. Gigelow and H. H. Rusby and the reduction in rank of Dr. L. F. Kelbler, who for years has been Dr. Wiley's able and energetic assistant.

At the time of writing, President Taft has made no official move in the matter and it is said to be the opinion in official circles at Washington that probably the President will merely reprimand Dr. Wiley for his technical error. The country awaits with interest President Taft's action in this matter. From the standpoint of public interest there can be no question that Dr. Wiley's services should be retained. President Taft, in deciding this case, has it within his power to administer a stinging rebuke to the food dopers and "patent medicine" makers and to those officials at Washington who are more concerned wth private gain than they are with public health.—Journal A. M. A.

STUDY OF PELLAGRA.

For the purpose of making a scientific study and careful analysis of pellagra with a view to ascertaning preventative measures, a perfectly equipped research laboratory is being established in the United States Marine Hospital in Savannah in pursuance of instructions received from Surgeon General Walter Wyman, of the public health and marine hospital service.

To accomplish this work Past Assistant Surgeon C. H. Lavinder and Assistant Surgeon R. M. Grimm, both connected with the marine hospital service hygenic laboratory in Washington, have been ordered to Savannah and have already made considerable headway in fitting up their laboratory. Dr. Lavinder, who is at the head of this undertaking and is working directly under the orders of the surgeon general, is considered one of the best, if not the best, informed surgeon in the government service with regard to the disease which he will exhaustively study there.

For a number of months he has been devoting himself to the study of pellagra in all its forms and conditions. Last summer he spent several months among the Italian physicians and surgeons studying the conditions and the growth of the epidemic in that country. More recently he has traveled throughout the length and breadth of the United States on the same mission preparatory to conducting his research work in

Headquarters for Country.

It is the purpose of Surgeon General Wyman to make Savannah the headquarters for the study of pellagra for the whole country. A certain number of patients will be admitted to the Marine Hospital where this research work will be conducted and which heretofore has been maintained only for seamen of the merchant marine. Up to this time it has never been possible to admit to the marine hospitals any other patients.

By a recent act of congress, however, the service has been authorized to receive a certain number of patients into the marine hospitals in Savannah for scientific study.

In speaking of the work that he has been appointed to undertake, Dr. Lavender said yesterday:

"The service is much interested in pellagra. It has spread rapidly in this country, more rapidly than the general public is aware of, and the Surgeon General has taken a keen interest. After the passage of the bill selecting this hospital as the headquarters for the study of pellagra, he sent me here to prepare the work. How long I shall be here I don't know, but it will probably be for some time as I have been ordered to study the disease carefully and collect all the statistics possible.

Will Receive Patients.

"It is my intention, in pursuance with the Surgeon General's instructions, to equip a laboratory here and receive a certain number of patients for scientific study. I do not know whether or not the laboratory will be thoroughly equipped by July 1, as is my present intention, but on that date patients will be admitted. We will receive only male cases, whether boys or men, and those that are still in the early stages. Very frequently pellagra develops into violently insanity and such cases we do not want to handle. In the meantime Dr. Brimm is going out into the field to make epidemiclogical studies, although it has not been definitely determined as yet where he will go first.

"It is extremely important that statistics regarding this disease should be carefully collected. Very little is really known about the disease today and no one knows how many cases there actually are in the United States. South Carolina has more cases, probably than any other state in the union, although there are many cases in Georgia, Alabama, Louisiana and Mississippi."

Other Diseases Studied.

The importance of this work, both to Savannah and the world at large can hardly be overestimated. The selection of Savannah as the headquarters for the research work not only in pellagra, although that is the primary object of the government in establishing a laboratory there, but in other epidemic diseases, for the public health and marine-hospital service concerns itself with the field of preventative medicine and studies all diseases affecting the public health, will mean much for the local medicinal field.

Although considered by eminent physicians and surgeons all over the world as a comparatively recent discovery, pellagra has already made tremendous growth and has spread rapidly throughout the civilized world. Although careful study of the disease has been made, as yet no positive cure or preventative measures have been discovered. No expense or cost will be considered by the United States government in conducting the research work in this country and so far as the marine hospital service is considered all of the work will be done through the Savannah Marine Hospital.

MEDICAL ASSOCIATION OF GEORGIA.

MINUTES OF GENERAL SESSION

Rome, April 19, 1911.

The Sixty-second Annual Session of the Medical Association of Georgia, was opened with prayer by the Rev. C. C. Jarrell, D.D.

The address of welcome was delivered by Judge Moses R. Wright, of Rome.

The adddress of welcome in behalf of the local profession was delivered by Dr. W. W. Mangum, of Rome.

The response in behalf of the Association, was delivered by Dr. Dunbar Roy, of Atlanta.

The report of the House of Delegates was read and adopted.

The scientific papers were read and discussed as follows:

The Association of Cataracts with Uncinariasis. (Hook Worm.)
F. Phinizy Calhoun, M.D., Atlanta
This paper was discussed by Drs. Taylor, Atlanta; Cox, Rome; Fort, Lumpkin; Hiers, Savannah; and closed by the Essayist.

The Treatment of Digestive Disturbances by the Surgeon.
R. P. Glenn, M.D., Columbus

Psychotherapy and Re-education in the Treatment of Nervous Diseases.
E. T. Gibbs, M.D., Gainesville
This paper was discussed by Dr. Baldwin.

Reasons for Doubting the Corn Theory of Pellagra.
S. R. Roberts, M.D., Atlanta
The Diagnosis and Treatment of Maize Poisoning.
H. F. Harris, M.D., Atlanta
These two papers were discussed by Drs. Price, Tifton; McArthur, Cordele; McRae, Atlanta; Harris, Valdosta; Roberts, Atlanta; and Harris, Atlanta.

Wednesday Afternoon Session.

A Plea for Systematic Examination of School Children's Eyes, Ears aand Throat.
J. L. Hiers, M.D., Savannah.
Discussed by Drs. Fort, Lumpkin; Daly, Atlanta; Smith, Rome; Dean, Dawson; Paullin, Atlanta; Hiers, Savannah.

Cholecystitis.....J. L. Campbell, M.D., Atlanta.
Discussion by Drs. Battey, Augusta; Jones, Atlanta; Glenn, Columbus; McRae, Atlanta; Cartledge, Atlanta; Turck, Chicago; and in closing, by the essayist.

Perforating Gunshot Wounds of the Abdomen with Report of Cases.
J. R. B. Branch, M.D., Macon.
Discussed by Dr. Harbin, Rome.

A Review of Fifty-six Consecutive Operations for Fibroid Tumors of the Uterus.
E. G. Jones, M.D., Atlanta.
Discussed by Drs. Barnett, Atlanta; Campbell, Atlanta; McRae, Atlanta; and closed by the Essayist.

Nausea and Vomiting: Their Clinical Significanse.
W. W. Jarrell, M. D., Thomasville.

On the Treatment of Fractures.
T. J. Charlton, M.D., Savannah.

Surgical Deliberation: A Plea for Careful Consideration and Accurate Diagnosis before Operation.
F. W. McRae, M.D., Atlanta
Discussion by Drs. Jones, Atlanta; Turck, Chicago; Harvey.

Thursday Morning Session

President's Address:
Discussion by Drs. Bloomfield, Athens; McRae, Atlanta; McArthur, Cordele.

The Significance of Indicanuria in Surgical Cases.
W. F. Westmoreland, M.D., Atlanta.
Discussed by Drs. Paullin, Atlanta; Adair, Atlanta; McRae, Atlanta; and closed by the Essayist.

Osteosarcoma of the Pelvis with Report of Case.
S. T. Barnett, M.D., Atlanta.
Discussion by Dr. Kime, Atlanta.

Goitre and it's Surgical Treatment with Report of Two Cases.
W. P. Harbin, M.D., Rome.
Discussion by Drs. Battey, Augusta; Jones, Atlanta; Branch, Macon; Cartledge, Atlanta; Dorsey, Atlanta, and closed by the Essayist.

The Treatment of Cancer of the Breast.
F. K. Boland, M.D., Atlanta.
Discussed by Drs. Battey, Augusta; Campbell, Atlanta; Kime, Atlanta; Jones, Atlanta.

The Diagnosis and Treatment of Intussusception.
W. W. Battey, Jr., M. D., Augusta.

A Simple Technique in Gynecologic and Obstetric Perineal Repair Incomplete and Complete.
R. R. Kime, M.D., Atlanta.
Discussed by Drs. Battey, Augusta; Branch, Macon; and closed by the Essayist.

Thrombosis of the Cavernous Sinus with Report of Case.
H. H. Martin, M.D., Savannah.
Discussed by Drs. Roy, Atlanta; Cartledge, Atlanta; Martin, Savannah.

Thursday Afternoon Session.

Removal of Large Pus Kidney and Large Ovarian Cyst.
H. R. Donaldson, M.D., Atlanta.

Salvarsan or "606" in the Treatment of Syphilis, with Report of Cases.
W. L. Champion, M.D., Atlanta
These last two papers were discussed by Drs. Campbell, Atlanta; Hutchins, Atlanta; Roy, Atlanta; Daly, Atlanta; Paullin, Atlanta; Thrash, Atlanta; Calhoun, Atlanta; Barnett, Atlanta; Gibbs, Gainesville, and closed by the two Essayists.

Treatment of Pulmonary Tuberculosis by Artificial Pneumothorax Showing Author's Apparatus.
S. T. Harris, M.D., Valdosta.

Therapy of Pulmonary Tuberculosis.
L. C. Rouglin, M.D., Atlanta.

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264 Consecutive Cases of Tuberculosis among Insane Negroes.
N. P. Walker, M.D., Milledgeville

Rationelle of all Treatment Applied to Pulmonary Tuberculosis.
J. M. Anderson, M.D., Pinedale

Does the Crusade against Tuberculosis stand the Test of Efficiency?
W. C. Bryant, M.D., Camp Yonah.
These papers were discussed by Drs. Thrash, Atlanta; Harris, Valdosta; Williams, Folkston; Cartledge, Atlanta; Harris, Valdosta; Roughlin, Atlanta; Anderson, Pinedale.

Thursday Night Session.

Address by Dr. Turch, Chicago.
The Report of the House of Delegates was read.
Resolution offered by Dr. Dean was read and seconded.
Address by Dr. McCormick was delivered.
Dr. McArthur moved the adoption of the resolution as a whole.
Dr. Block inserted an amendment regarding the name of the Journal.
The resolution as amended, was unanimously carried.

Friday Morning Session.

Drinking Water with Meals—A Physiologic and Dietetic Study.
Geo. M. Niles, M.D., Atlanta.
Discussed by Drs. Duncan, Atlanta; Thrash, Atlanta; McArthur, Cordele; Branch, Macon; Visanska, Atlanta; and closed by the Essayist.

Bacilli Carries.....K. R. Collins, M.D., Atlanta.
Discussed by Drs. Bloomfield, Athens; Bennett, Jefferson; Branch, Macon; Daly, Atlanta.

Why the Medical Association of Georgia should lend its Influence in Revising the present Commitment Laws of the Insane in Georgia.
J. C. King, M.D., Atlanta.
Discussed by Drs. Funkhouser, Rome; Daly, Atlanta; Ellison, Milledgeville; Hiers, Savannah, and closed by the Essayist.

Diseases of the Gums....Robin Adair, M.D., Atlanta
Discussed by Drs. Niles, Atlanta; Daly, Atlanta; Cartledge, Atlanta; Visanska, Atlanta; and closed by the Essayist.

Prolonged Intubation—Case.
G. B. Smith, M.D., Rome.

Brain Tumors—Reports of Cases with Autopsies.
E. Bates Block, M.D., Atlanta.
Discussed by Drs. Nicholson, Atlanta; Block, Atlanta.

Apomorphia and It's uses.
S. A. Visanska, M.D., Atlanta.
Discussed by Drs. Niles, Atlanta; Thrash, Atlanta; Fort, Hawinsville; Cartledge, Atlanta; and closed by the Essayist.

Potpourri.....E. C. Cartledge, M.D., Atlanta.

A Plea for the Isolation of the Criminal Insane.
W. A. Ellison, M.D., Milledgeville.
Discussion by Dr. Daly, Atlanta; closed by the Essayist.
The Session then adjourned.

THIRD DISTRICT MEDICAL ASSOCIATION

Ninth Semi-Annual Session at Oglethorpe, Ga.
Wednesday, June 14, 1911.

Program Afternoon Session, 3 to 6 p. m.
At School Auditorium.

Meeting called to order at 3 p m.
Invocation.....Rev. J. B. McGhee
Address of Welcome—Behalf of City of Oglethorpe.....Mayor J. P. Nelson
Address of Welcome—Behalf of Local Medical Profession.....Dr. H. C. Derrick
Response to Address of Welcome—Behalf Third District Medical Association—Dr. H. A. Mobley .....Vienna, Ga.

PAPERS.

Subject: Public Health—A Symposium.

1 The Public Health Propaganda—Dr. T. J. McArthur ..... Cordele
2 Preventive Medicine—Dr. J. G. Dean....Dawson
3 The Common House Fly—Dr. J. W. Palmer .....Ailey
4 Health in School Work—Dr. A. G. Fort, Director of Field Sanitation, State Board of Health.
5 The Duty of the Public to the Physician, Dr. Chas. A. Greer.....Oglethorpe

6:30 to 7:30—Supper on School Campus—Guests of Board of Trade.

NIGHT SESSION, 7:30 O'clock.
School Auditorium

Reading of Minutes and General Business.

PAPERS—Continued.

6 Household Pets as Carriers of Disease—Dr. M. A. Warren.....Byron
7 Veratrum Viride and Some of its Uses—Dr. J. E. Mangham.....Reynolds
8 Schlerosis of Uterus with report of Case—Dr. J. R. Statham.....Americus
9 Prophylaxis and Treatment of Cervical and Perineal Tears—Dr. J. S. McKenzie—Cordele
10 Errors of Refraction—Dr. T. E. Bradley, ...Cordele
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Third Quarterly Meeting Tri-County Medical Society Held at Winder, Ga., July 11, 1911.

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Chronic Cystitis—Causes, diagnosis and treatment.....Dr. Ralph Freeman
Dispensing vs. Prescriptions.....Dr. G. P. Hurst
Abscess of the Liver; its relations to Gall Bladder trouble. Treatment.....Dr. M. T. Johnson
Some experiences in Obstetrics.....Dr. R. P. Adams
Sexual Hygiene—With special reference to the newly married.....Dr. L. C. Allen
The Baby, the Child—Care during the summer months.....Dr. J. B. Gurley
What has the Tri-County Medical Society done for its members.....Dr. S. T. Ross
Passive Congestion of the Liver—Diagnosis and Treatment.....Dr. H. P. Quillian
Erysipelas—Manifestations and Treatment—
Dr. J. C. Bennett.
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GOITRE AND ITS SURGICAL TREATMENT.

W. P. Harbin, Rome, Ga.

My visit to the Mayo clinic especially excited interest in goitre. Having done one successful operation for exophthalmic goitre, and assisting my brother, Dr. R. M. Harbin, in removing a cystic thyroid, has increased interest in this subject. In looking over the papers read at the Georgia State Medical Association for the last eight or ten years, I have not been able to find a paper on this subject. In view of this it seems well to review the present methods of doing thyroidectomy.

The history of goitre in a surgical way began for the most part in the latter part of the last century, and Kocher was the first to demonstrate that exohpthalmic goitre could be treated surgically. Surgeons previous to his time were afraid of operations on the thyroid gland, and Kocher eliminated the principal dangers.

In 1873 Gull described myxoedema, and in 1882 Kocher demonstrated that this condiophthalmic goitre there is an excessive secretion of a substance from the throid gland which acts like a poison to the body. This condition is known as hyperthyroidism. In other words, there is a secretion of a normal substance which in excess acts like a poison. This discovery made thyroidectomy a reasonable procedure because removal of a part of the thyroid would cut off the source of poison.

Twenty-five years ago thyroidectomy was considered the most dangerous of all the major operations. Now it is considered as a fairly safe major operation. This change is due to Kocher, whose skill, methods and experience have made this operation much safer.

The dangers of thyroidectomy are: Anaesthesia, shock, hemorrhage, hyperhyroidism, infection, injury to the recurrent laryngeal nerve, injury to the parothyroids, air embolism, collapse of trachea, and consequent asphyxia.

A certain amount of asphyxia may be present before operation, due to pressure, and this is then overcome by the voluntary muscles of respiration. When under a general anaesthetic, the patient does not use these muscles, and in this way, if the anaesthetist is not alert, great harm can be done. The

Read at Meeting of Medical Association of Georgia, Rome, Ga., April, 1911.

tion would be brought about by the removal of the entire thyroid gland.

In 1882 Moeleins demonstrated that in exheart is often weak, due to the poison of excessive thyroid secretion, and in this way the anaesthetic help to kill. Manipulation and traction on the trachea and larynx increases the secretion of mucous, and this interferes with breathing. Some think that a general anaethetic is the greatest danger, while many think that the mental excitement under local anaethesia is more injurious than a general anaethetic. Many surgeons give one fourth of a grain of morphine sulphate, and one hundredth of a grain of atropin sulphate, to prevent excitement and check secretion of mucous in the air passages. The anaesthetist is not to watch the operation. The teeth of the lower jaw must be hooked on to and in front of those of the upper, to prevent dropping back of the tongue.

Kocher has demonstrated that shock in the operation can be eliminated largely. A knowledge of the anatomy, a comparatively short operation, and the least trauma possible, helps to eliminate shock.

Kocher pointed out the importance of keeping the field of operation free from blood. The veins are enormously distended, and must not be torn, because this will allow blood to flow, the other bleeding points will be obscured and later cause hemorrhage. Bleeding of course prolongs the operation, causes more manipulation and loss of blood.

Hyperthyroidism is often produced by squeezing out poison from the gland during operation; the blood running over freshly cut surfaces and being absorbed. Under local anaethesia there is less trauma, because the patient will not stand the pain of rough handling.

Great injury or removal of the parathyroid bodies will be followed by death from tetany. There are four parathyroid bodies. There are two on each side, and these are on the posterior surface of the capsule of the thyroid gland. The superior parathyroid is near the posterior surface of the oesophagus, on a level with the cricoid cartilage, and the inferior is at the lower pole of the gland, and in front of the inferior thyroid artery.

Infection has for the most part disappeared since antiseptic and aseptic surgery appeared.

Embolism is not common. It is not likely to occur in the veins of the capsule, but more likely in other veins of the neck. If all vessels are immediately clamped when cut, embolism will be almost unknown.

The recurrent laryngeal nerve may be clamped in trying to clamp bleeding points in the lower part of the thyroid gland. The parathyroids and recurrent laryngeal nerves are protected by leaving the posterior capsule of the gland. A considerable amount of the thyroid tissue must be left on the lower part of the posterior capsule below, in order to protect the recurrent laryngeal nerve and lower parathyroid bodies.

Collapse of the trachea will be referred to later.

The collar incision of Kocher is the best, and gives the most room to work in, and also leaves the least disfiguration. This incision begins on one side on the sterno-mastoid muscle, at level with or slightly above the highest point of the larynx, and then curves downward and inward to the middle line, well below the isthmus of the thyroid, thence upward to a point on the sternomastoid muscle corresponding to the beginning point on the opposite side. This incision should be symmetrical, and can be varied some to suit varying conditions. This incision goes through the skin, superficial facia and platisma. A flap containing these structures should be dissected upward, and held by retractors. Every bleeding point should be clamped immediately by an assistant, and this should be done throughout the operation, and at a later time tied.

After reflecting this flap, we come to the muscles of the neck. Some of these may be seized gently with artery forceps, and cut so that each cut end is held by an artery forceps to prevent bleeding, facilitate handling and sewing the ends together later. Many operators do not cut these muscles, but retract them. After cutting or retracting the muscles we come to the thyroid gland, which has a purplish color, and in its capsule we can see the blood vessels. Normally the thyroid weights 450 to 900 grains. It is relatively larger in children than in adults. The diseased gland may not be larger than normal. In other words, we can have hyperthyroidism without enlargement of the thyroid gland. The upper part of the thyroid gland is covered with the superior thyroid arteries and veins, and the lower part is covered with the inferior thyroid arteries and veins. The veins are especially large in exophthalmic goitre. and can be seen distinctly in a normal condition. It is not necessary to expose the internal jugular vein, vagus, phrenic, or recurrent laryngeal nerve, the internal or external carotid artery. because they can be left behind the capsule of the gland.

It is not usual to ligate both superior thyroids, but ligate one superior and both inferior thyroid arteries. After ligating the superior thyroid, usually on the right side, the gland can be luxated forward and to the left side. The gland can be luxated before the superior thyroid artery is tied, but there is less hemorrhage if the ligation is done first. In dislodging the right lobe it is best not to squeeeze or handle the gland too roughly, as this will flood the circulation with the secretion of the gland, and may aggravate the already existing hyperthyroidish. Tamponing the cavity from which the gland is luxated will stop the hemorrhage. When the gland is luxated and pushed to the left side it is then possible to expose the inferior thyroid artery and recurrent laryngeal nerve. The inferior thyroid artery and vein are farther apart than the superior artery and vein. It is hard to expose the inferior thyroid vessels, unless some of the muscles of the neck have been cut. It is possible not to harm the recurrent laryngeal nerve, if a part of the posterior capsule and some gland tissue is left. Occassionally when the tracheal rings are softened from pressure, the trachea collapses when the gland is removed at the isthmus, and this may be followed by asphyxia. Occasionally this asphyxia may be attributed to the anaesthetic, and if an intubation is not done the patient may die. If an intubation tube is not present, collapsed rings may be seized, and collapse relieved, or a tracheotomy done. After dissecting up the right lobe from the posterior capsule, and leaving a considerable amount of thyroid tissue on the posterior capsule at the lower part, we reflect the right lobe over towards the left; we seize the part attached to the isthmus and crush it with forceps, then cut it off, and then sew it with cat gut. The posterior capsule is now sewed with a loop stitch of catgut over its whole surface, to prevent bleeding; these stitches are not to go too deep or be too tight, as they might harm important structures behind.

The cavity left after thyroidectomy has to be drained through a stab incision below the lowest part of the collar incision. It can be drained with a cigarette drain or by a gauze drain. The drainage should stay in three or four days, in order to remove the excessive secretion of thyroid. The platisma muscle should be sewed together, and the skin incision sewed with a subcuticular catgut stitch. After this the usual sterilized dressings are applied.

DISCUSSION OF DR. HARBIN'S PAPER.

Dr. W. W. Battey, Jr., Augusta: I have had the pleasure of seeing Dr. Kocher and Dr. Mayo operate upon these cases and I was pleased to see the wonderful manner, the dexterity and the ease with which they operated in removing thyroid goiters. I was also impressed at the German clinics with the condition of mind that the patients were in, and especially the acceptation of the local anaesthetic. These patients were placed upon the table and the local anaesthetic was given without a murmur on their part; not at all. However, I do not believe in the giving of a local anaesthetic in these operations; it is not anaesthetic of choice. I believe that a general anaesthetic should be used.

I was very much impressed with the teaching of Dr. Charles Mayo at Rochester, Minn. He states that where a cystic goiter presses upon the thyroid gland, there is an absence of the secretion; these are the cases that are very much benefitted before any operation by feeding them with the thyroid extract. Dr. Mayo also states that many cases with exophthalmic goiter had come to him in his clinic who had been fed upon thyroid extract with the hope that they would be benefitted; but in fact the condition of thyroidism was increased. He also states that the use of the arsenical preparations is followed in many cases by very striking results.

Dr. E. C. Jones, Atlanta: We must admit that a large number of patients with goiter are favorably effected, and even cured, by other than surgical measures. I wish to be thoroughly understood in this statement. It is also true that the medical treatment of goiter has been uniformly unsatisfactory. I am sure that it is a pity that those suffering from this disease do not turn black and, as a result, insist upon proper attention for the relief of their condition. It is also a pity that those affected with cancer do not have the condition manifest itself by pain, such as a tooth-ache. There are many questions regarding exophthalmic goiter that might be answered, but we are unable at this time to answer them. Many believe that the colloid matrial is not a normal secretion; they believe that it is a complement in the gland, some left-over product. However, the majority of our best physicians believe that colloid is a natural secretion, a nucleo-proteid and a thyro-globulin. The first of these two contains a secretion which accelerates the heart; the second secretion has a favorable influence on metabolism, es-

pecially that which pertains to the brain. One should remember what is brought about by any long continued sickness; or what is brought about by loss of sleep; during these periods there may be called for on the part of the system an additional amount of thyroglobulin; but this cannot be produced without an addtiional amount of nucleo proteid and this may produce deleterious results. I think it is a pity that the text-books say anything about thyroidism; what is best regarding this subject is found only in pamphlets; it is not found in the text-books at all.

The prognosis is better today than it was ten years ago, and I think it will be even better in the future. The people should realize that a so-called simple goiter may produce symptoms of hyper-thyroidism and that there will follow dangerous changes in the heart muscle and other viscera, and especially in the central nervous system. In many cases one tends to kill too much time in trying the various remedies. If a person is shot and the bullet penetrates the kidneys, the intestines, and other parts, and lodges in the skin of the back; will the removal of the bullet from the skin of the back accomplish a cure? If one waited year after year he cannot accomplish much from an operation; the damage done is by then almost irreparable. It may be that a removal of a portion of the thyroid gland, limiting the amount of secretion given out into the circulation, might stop the progress of the disease. It should be remembered, however, that we cannot make a new heart, cannot rejuvenate the brain, nor can we overcome this muscular weakness that occurs in such cases.

Dr. J. R. B. Branch, Macon: I wish to emphasize the importance of an early diagnosis, especially in cases of exophthalmic goiter. Anyone can recognize the classical text-book description of this disease; but there are the cases that appear before us that do not present the cardinal symptoms and these cases should be noted with care. There are many cases of exophthalmic goiter that have no goiter that can be noticed. They may have the protruding eyes but no enlargement of the thyroid gland is noticed. Many of these patients are treated for nervousness or certain weaknesses, but it is not known that is is the result of hyper-throidism. These patients appear before the surgeon on account of nervousness and irritablity. There seems to be a change in the patient's disposition. At first he appears perfectly calm, very cheerful; then his disposition changes and he becomes very nervous, very irritable and upset by trivial causes. In the case of a woman she is unable to perform her ordinary house-hold duties. Many of these case sare treated for nervousness and many other things. They may show certain eye signs, such as the Greafe's sign, and the tremor may escape observation in the precursory examination. There may be the rapid pulse which does not go above 120. Some of these cases are without doubt hard to diagnosticate. There are so many of these cases that come to the general practitioner that should be looked out for because they can be helped if at once recognized.

With regard to the use of an anaesthetic, each case is a law to itself; there seems to be a turning, however, from the local to the general anaesthetic, and for two reasons. First, the general anaesthetic is the better especially when given by a man expert in this work. Recently I saw a man giving the anaesthetic converse with the operator who was engaged in removing the thyroid gland. However, if ether is contra-indicated gas and oxygen anaesthesia is of great help and perfectly safe. I think that gas and oxygen, when given as an anaesthetic, and in the hands of one who is an expert, is perfectly safe and gives entirely satisfactorily results.

Dr. E. C. Carledge, Atlanta: There are a certain class of cases that I would not care to operate upon, and recently I have seen such a case. I thought in this case that the X-ray might be of value. The diagnosis was that of neurasthenia and was of two or three months duration; but I noticed a slight tremor, the pulse a little fast, but the chief symptom was the excessive sweating. It occurred to me that this was one of the symptoms of exophthalmic goiter. There was the slight tachycardia and, after a careful examination I found there was a hyperthyroidism. I wish to call attention especially to the fact that the sweating was very marked. In this case, after every exposure to the X-ray the skin action was arrested. After a dozen exposures the patient appeared to be well for one year. The patient was then again treated and since then there has been no trouble whatever. This was a case that would have been treated radically; it shows that we have something of value in the application of the X-ray in these cases.

Dr. R. T. Dorsey, Atlanta: The paper has been discussed from an entirely surgical standpoint; it should be remeimbered that this disease should be considered from the medical side as well. Surgery of the thyroid in even skilled hands has been attended with

a mortality; it is a major operation. In regard to the cases under discussion I am not of the opinion that they should all be referred to the surgeon. Many of these patients cannot reach a surgeon of ability, especially those who live in the country districts. I have seen a large number of these cases; if there is any other chance of curing them without such radical procedures I think it is well worth trying. Dr. Forchheimer, of Cincinnati, has reported fifty-five (55) cases with but five (5) failures—certainly an excellent result. This shows that many cases may be benefiitted by medical measures alone. Dr. Forchheimer's treatment consists in giving the following:

Quinine hydrobromate .....5 parts.
Ergotol .....1 part.

I believe that before resorting to surgical treatment of these cases this should be tried. I have added to the above one-quarter of a grain of the extract of belladonna.

Dr. W. P. Harbin, Rome, (closing the discussion): My paper dealt with the surgical side of the question only. I said only a few words regarding the cases operated upon. I have in mind one patient who had a very pronounced exophthalmos and quite a large goiter; this patient complained most of a choking sensation. She sent for me once to give her relief, but this spell did not last long. She had a very brassy, metalic ring in her voice which was due to pressure upon the recurrent laryngeal nerve. After operation this choking sensation was entirely relieved. I tried for a time the use of the X-ray but this did not seem to relieve her.

What Dr. Dorsey has said I think is very timely. There should be a clear cut distinction between the medical and surgical treatment of these cases. There is no doubt but that the operation of thyroidecomy has an ill effect upon these patients, but if the patient is suffering from an excessive secretion from the thyroid gland, and producing a degeneration of the heart muscle, of the kidney, of the liver, and of other organs, it is only reasonable that we should take a portion of the thyroid away, and so cut off the source of the poison. But there are two sets of cases, as I have already mentioned, the medical and the surgical. In the case of a degenrated heart muscle one cannot do much for the patient.

REPORT OF CASES OF BRAIN TUMORS WITH AUTOPSIES.

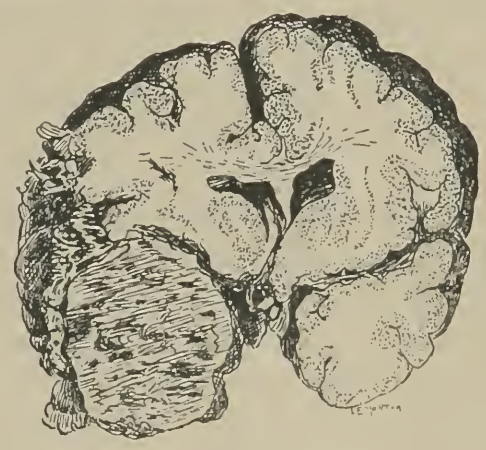
E. BATES BLOCK, M.D.

Professor of Nervous and Mental Diseases, Atlanta College of Physicians and Surgeons.

In the following paper I have reported only the cases of brain tumor which came to autopsy and showed some points of special interest. I have not included cases which recovered under medical treatment for the reason that these are, as far as we know, only syphilitic cases and are so common that everyone is quite familiar with them. Also I have not included some other cases with autopsies because there was nothing of special in terest in them.

Case I—Sarcoma in the right temporal lobe.

Operation. Figure I.



Case I

W. B. R.—Aged 28 years. Was first seen on 29th of Sept. 1906. Chief complaint was failing eye sight.

Family History:—Had been married four years. No children. His wife had had no miscarriages. Otherwise his family history was negative.

Past History:—Had measles, mumps and whooping cough when a child. Chills and fever every other day, and again several years ago, and again three weeks ago. No venereal diseases. Never drank. Does not use tobacco. No accidents, injuries or operations.

Present Illness—Began wearing glasses two years ago, but there was no marked defect of eye sight until February when it failed markedly and has been about the same for the last two months. Both eyes are equally affected at first but the right eye is now worse than the left. Everything looks blurred and indistinct. Can read very large print. Some pain in left eye and headache in left frontal region for two years which

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first caused him to get glasses. Worse when he looks at a bright light. Sleeps well. Memory as good as ever. No change in disposition except "not as jolly as formerly and melancholy at times." Speech slower than usual at times, always had some stoppage of speech. Had a nervous attack five weeks ago, and fell over helpless, could not talk or move, but knew everything. This lasted fifteen minutes. Had two chills about that time, skipped one day. There was much chills and fever at his home at that time. Appetite good. No nausea or vomiting. Digestion good. Bowels constipated on and off for a year. Staggers in walking, worse in the dark. Unsteady at times when standing still, not dizzy. Strength equal on two sides. Weight as usual, 191 lbs. Height, 5 ft. 11½ inches. Cold air will cause pain in left eye and left side of forehead. Is getting more nervous. Is a pattern maker in iron foundry, but has not been able to do this work since February, but has done light work even this week counting bolts.

The patient was given large doses of potassium iodide and mercury. He gradually became weaker and became very stupid mentally. He vomited, due probably to the large doses of iodide. His pulse was usually faster than normal. He was operated on by Dr. Nicholson on the 4th of November and the seat of the operation can be seen on Fig. I, where the brain was punctured in all directions and irectly into the tumor which lay too deep for removal. He died four hours after the operation from respiratory failure due to hemorrhage with pressure of the clot on the medulla and pons. The tumor was a sarcoma growing from the dura mater of the petrous portion of the temporal bone and pressing upward into the substance of the right temporal lobe which almost entirely enveloped it. The case is of interest in showing the fact that the optic neuritis, which was marked in both eyes was worse on the side of the brain tumor; that chills and fever are not indicative necessarily of brain abscess and that the seat of the headache does not correspond necessarily with the seat of the tumor.

Case II—Cystic glioma of the left temporal lobe: Figure II.

L. L. C. Aged 15 years, was seen on 19th of Dec. 1904.

Family History:—Her history as written by her mother was as follows. No hereditory troubles in the family. The family history was negative.

Past History:—Born healthy. Pneumonia at age of 6 years. Measles, whooping cough, rising in one ear when she had measles, but was soon cured.

Present Illness:—Last Spring she began to complain of violent and sudden headaches always over the left eye, these did not last long. Supposed to be neuralgia at first. The first of July she had headache for several days, complained of nausea and dizziness, had fever one day. Liver medicine relieved her. When she got up she followed her mother out of the room and fell on the floor. She said she fainted but her mother thought dizziness caused her to fall. She was apparently well after this and about July 10, went to the World's Fair. Very soon the headaches returned and some days she was unable to go to the Fair at all. She returned home on the 26th of July and was very nervous and had violent pains in her head and back of neck. There was no fever.

Case II

For the next five weeks she suffered terribly with pains in both eyes, on top of head, back of neck, and down the spine below the shoulders. For two days she had nausea while taking calomel. Dr. Posert of Memphis was then consulted and made a diagnosis of brain tumor. She improved and on 8th of Sept. was taken to Memphis to see Dr. Will on account of blindness which was developing. She was treated with potassium iodide and mercury. The left eye began to clear up and she could read a line and see how to get about the room. About the 9th of December, the headaches returned and soon became violent, pain in eyes and top of head. There was nausea for a week, much vomiting and could eat nothing and soon became very weak. A few days before she came to Atalnta she was given a small dose of morphine on account of her intense suffering and in five minutes she went into a deep stupor and was thought to be dead. The next night she was given another very small dose of morphine which was followed by stupor from which she was more easily aroused.

The patient was seen first at 5:30 P.M.

on 19th of Dec. Pulse 17 to ¼ minute. Right side of face rather flaccid looking, droopy, and the labio nasal grove not as marked as the left. The right cornor of the mouth turned a little downward. Right side of face does not move as well as the left. The tongue deviates distinctly to the right on protrusion and the right side of the tongue looks smaller than the left. Cannot turn the eyes as far towards the right as the left. On looking upwards the eyes seem to go more upward to the left than straight upward and there is a slight nystagmus on looking upward but no laterally. Says she hears eqaul ly well in both ears but this was not tested. No tenderness of the mastoids. There is no difference in the strength of the hands, arms or legs on the two sides.

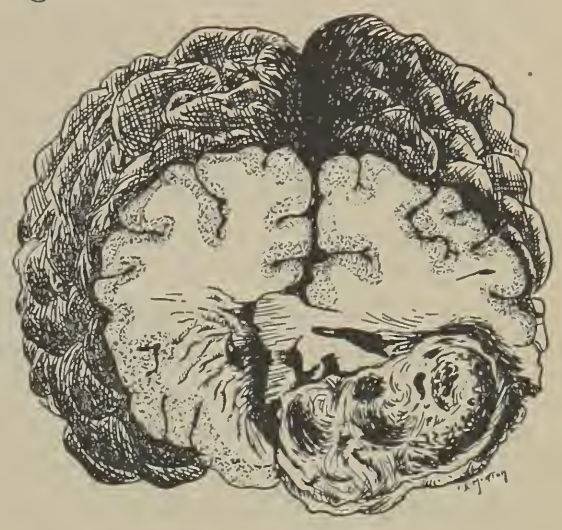
Headache worse in the left frontal region but extends over whole head. Forgets names but otherwise memory is good, does not use wrong words and talks well but is drowsy and worn out with travel and headache and for these reasons further examination was postponed.

Was visited again at 7:30 P. M., but was asleep and not disturbed. She was seen again at 4:30 A.M., on the 20th of Dec. in dying condition, apparently. She lay unconscious with head turned to the left, pulse 120 to the minute and five minutes later became 210 to the minute but each beat was full distinct and strong even then. About ten minutes later the pulse became very irregular, beating a few strokes and then stopping during the time interval for several normal rate strokes. Froth began to pour from the mouth and there were large mucous rales in the chest when the pulse became fast. The right cheek showed a very white patch about two inches in diameter, surrounded by a very hot skin extending over the whole of the rest of the face and neck and feeling to the touch as 105° or 106°F. while the pale area felt cool. The difference in temperature of these two areas was so great that they were readily recognized by touch with the eyes closed. Just before death she had a convulsion, then the left arm became rigidly extended, the forearm rotated inward and the wrist and fingers became flexed.

The autopsy showed a large cystic and hemorrhagic glioma of the left temporal lobe. See Fig. II.

This case is interesting on account of the distal pressure symptoms; the correspondance of the side of the headache with the side of the tumor, the peculiar vasomotor disturbance due to pressure on the bassal gangia. It also illustrates well the great danger from morphine in cases of brain tumor.

Case III—Sarcoma of the left frontal region. See Figure III.



Case III.

H. W. H. Aged 64 years. Was seen on 22d of August, 1908.

No family history or past history could be obtained as the patient was insane and his son knew nothing about it.

Present Illness:—The patient was well until 10 or 12 days ago when he began to complain of headache and posted a notice on the Court House door calling for an election of county officers which was not due at that time. A week ago the family began to think he had lost his mind. He had suns troke four years ago and was unconscious. His family were unable to control him. He would take a notion to go out at any time of day or night and could not be detained. Would go out in the rain and mud at night, and on one occasion got lost in the woods during a storm at night. Not violent. Never hurt anybody. High tempered man. Sheriff of his county. When at home said he was going home. Holds up his fingers often and squints at them and inspects them very carefully. Peeps around at people and laughs. Very little of what he says is good sense. Knows everybody at times, at others does not. Seems to have hallucinations of sight but not of hearing. Never drinks. Good moral man. Patients says when asked how long he was unconscious from sunstroke: "about four years." Son says one day and night. Wanted to pass urine in dining room today. Constipated. The patient continued to complain of headache. There were no arm, leg or face symptoms. The physical examination did not show any focal symptoms whatever. The patient was decidedly dull, mentally, slow in talking,and could not be induced to answer questions. He presented the symptoms of mild dementia. On 27th of August at 8 A.M., began to have

bloody and purulent discharge from the nose estimated by the family as being between a pint and a quart, and died in fifteen minutes.

The autopsy did not show anything when the brain was first removed but a hard mass could be felt in the left frontal lobe and on section a sarcoma was found surrounded by softened and broken down brain tissue which was in turn completely surrounded by apparently healthy brain tissue with no externa opening. This case is interesting from the fact that without an autopsy the ruptured frontal sinus abscess would have been supposed to have been a ruptured brain abscess. Also the evidently long absence of symptoms during the development of the tumor, and the sudden onset of symptoms shortly before death.

DISCUSSION ON DR. BLOCK'S PAPER.

Dr. W. P. Nicolson, Atlanta: The citation of these cases brings out many valuable points. It seems remarkable that patients should remain in such a fair state of health, and then have a relapse which terminated in a fatal collapse. It was also remarkable that the tumor should grow for such a long time without giving any symptoms whatever until a few weeks before death of the patient. This I think should have some important bearing in the study of the diagnosis of brain tumors.

The first case, on which I operated for Dr. Block was a very instructive one, it illustrated the fact that a localized tumor supposed to involve the tempero-sphenoidal lobe did not. Upon opening the skull the conditions were such that it was impossible to go further in our work. The intracranial pressure was so great that when the dura was opened the brain was forced out.

In one or two cases of brain tumors that I have operated upon I have been surprised at the fearful hemorrhage. The amount of hemorrhage caused a failure of repiration on the operating table; artificial respiration had to be kept up for three or four hours before the patient could voluntarily carry on this function.

In another case where the tumor pressed upon the tempora-sphenoidal lobe of the right side, I opened and emptied the whole fossa.

The first case reported by Dr. Block must have existed for many months or years. It should encourage us to get at these tumors as early as possible; many patients may be cured if an early diagnosis is made and operation performed.

Dr. E. Bates Block, Atlanta, (closing the discussion): In one case reported there was anesthesia on the right side of the face. The symptoms were referable to the Gasserian ganglion; at autopsy there was found a sarcoma that had grown through the pharynx and eroded the petrous portion of the temporal bone. The end of the petrous portion of the temporal bone was eaten away and there was a certain amount of pressure exerted upon the tempero-sphenoidal lobe of the brain.

ON THE TREATMENT OF FRACTURES.

T. J. Charlton, M.D., Savannah, Ga.

On the treatment of fractures many books have been written, yet today, so unsatisfactory are the results obtained that even the best among us find at times the need to explain why in a given case the results are bad.

From remotest time up today, the factors which have controlled the treatment of fractures have been (1) replacement of the fragments; (2) fixation of the parts, and it is held that as these are secured so might return to function be expected. Thus return to function has been looked upon as a sequence rather than as a factor itself. One of the surprises that the X-ray has revealed, is that the much dwelt on perfect apposition of the fragments is practically never obtained and this regardless of the method of treatment.

Again the X-ray has revealed to us certain fractures which were formally unrecognized or recognized, only occassionally and then late, when defined by the callus thrown out yet, which untreated resulted in perfect or almost perfect return to function. Of this class of fractures those of the shaft of the ulna and the head of the radius are the most common.

It is not very uncommon to find a neglected fracture with more or less deformity recover with good function, while on the other hand, we sometimes meet with fractures with good recovery as regards displacement of fragments and contour of limb yet with impaired function due to ankylosis of the proximal joint.

The time has come when we must recognize that return to function, the normal use of the parts, is the chief factor in our treat-

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ment of fractures though to obtain this end we have to accept a certain amount of deformity. Perfect replacement we cannot expect, but good function we can and ought to have, certainly, in a larger proportion of cases than is the rule today.

At the present time there are three methods of treatment that have attracted much attention and which are destined to influence all future treatment.

First in the attention it commands is the Open Treatment of which Arburthnot Lane, of London, is the chief exponent. In 1905 Mr. Lane expressed his views in these words: "Thirteen years have now elapsed since I made it my habitual practice to operate on all cases of simple fractures of the long bones in which I was not able to obtain accurate apposition of fragments, when the restoration of the bone to its normal form was of mechanical importance to the individual."

In certain fractures as in those of the patella and olecranon, in Pott's fracture with displacement forward of the tendon of the tibialis posticus, in certain cases of fracture of the neck of the humerus and of the neck of the femur, in compound fractures with badly displaced fragments and inability to replace or replacing to retain in place the fragments, it is the best method but for the larger number of simple fractures it is not the method for general adoption. Ashhurst and Newell report that out of 121 cases of fracture of the femur treated consecutively 99 recovered, out of 61 cases traced only 4 were incapacitated (2 of these of the neck and 2 of the condyles.) Out of 22 of the shaft 14 had perfect function.8 no disability but limp. Of the fractures of the femoral neck that could be traced 62 per cent. had entirely useful limbs.

Of cases traced excluding those of the neck 90 per cent. had entirely useful limbs. Now these results are far too good to justify the added danger from sepsis inseparable from the Open Treatment to all but the exceptional case of simple fracture.

The Open Treatment calls for a perfect technic, a skilled operator and the facilities of a well equipped hospital and without these at command it should not be attempted.

The second method of treatment is that of Bardenheuer of Cologne, and consists of a more or less complicated system of extension and counter extension whereby he attempts to restore the muscle equilibrim upset by the fracture so that when the fracture is once reduced there is little or no tendency for it to be displaced. The apparatus is unhandy, calls for the more than average mechanical sense and in this country where we are all familiar with the much simplier Buck's apparatus it will hardly succeed except in the idea it impresses of the need of counter extension to overcome rotary displacement of the fragments. The results of this treatment in Bardenheuer's clinic are excellent and needless to say he is not in favor of the Open Treatment.

The third method of treatment is one that was first introduced about thirty years ago by Lugas-Championniere, of Paris, and developed by him through his writings and by his students. The treatment consists of massage and movements both active and passive applied from the beginning of treatment and continued until the parts are restored to function. It requires no apparatus, supplements the rountine treatment with splints and when used with skill it adds to the comfort of the patient and hastens recovery.

It is not my object to discuss the relative merits of the various methods of treating fractures but rather to show that with the information at our command today we can and should get better results in the average fracture and this too without apparatus other than that which can easily be had anywhere and without the facilities of a hospital.

To secure the best results there are certain things we must keep in constant attention; and the first is this, that by the end of the second week the set of the fracture is fixed and that the early work determines the result. I except of course those few cases of delayed or non union the causes of which are little known and are probably due to some general cause far more than to local conditions. Next one must keep in mind the causes acting to displace the fragments other than the trauma itself and these are: retraction of the muscles, hemorrhage into the tissues; and inflammatory oedema While frequently one can entirely reduce the fracture at the first dressing there are times when this cannot be done on account of the swelling of the parts about the fracture. Now this is just where the daily dressing comes in, for by its use one can take in as it were the slack of the tissues as the hemorrhage is absorbed and the inflammation subsides and thus bring the fragments into the best possible apposition. Just this careful attention to detail may mean the difference between an indifferent result and an excellent one. He who today puts up a fracture in a dressing that is left on for weeks or only very occasionally changed deserves and gets

bad results. Just here I want to express myself on the subject of plaster of Paris as a dressing for fractures. While admitting its advantage in the ease with which it is applied and its perfect adjustment to the parts when applied, it yet has this very great disadvantage, it is difficult to remove and for this reason is not taken off and reapplied often enough; then in all recent fractures while it is perfectly adjusted when put on, in twenty-four hours or at most in forty-eight hours, the rapid atrophy of the muscles that always takes place, the absorption of the hemorrhage the subsidence of the inflammation leaves the plaster mould far from being the perfect fit it was when first applied and this very difference in fit is ample to permit the retraction of the muscles to displace the fragments and to change a careful and good reduction into one that is certain to give a poor result. This is not a theory for I have seen it again and again in practice so that I no longer use it in recent fractures. Where Plaster of Paris is used as a capping to a joint and only half surrounds it or where it is used as a half mould to a limb, the objections I have made to it do not apply, but it needs constant adjustment just as any other splint does to get the best results. When used late in fractures after the set of the fracture is fixed and the callus hard enough to resist the pull of the retracted muscles, where it is only necessary to guard against the bending and twisting strains plaster of Paris is worthy of all confidence, but in all recent fractures of the limbs it should be used with the utmost caution if we hope for best results.

One of the claims made by those who advocate the Open Treatment is that the results are quicker and the patient is not kept so long from his accustomed occupation. Now there is no reason why this should be, for the blood thrown out between the fragments at the time of the injury makes an indeal condition for quick repair while the work done in the Open Treatment to prepare fragments for fixation certainly does not improve on it. Now the truth of the matter is that the many weeks we keep a fracture up is merely the result of following a custom set by the older writers, pure empiricism. While the confidence given by the plate or nail used in the Open Treatment has influenced the surgeons to turn out their patients earlier yet at best what a poor piece of work the plate or nail makes, even a most ordinary carpenter would be ashamed of it, it may hold the fragments in place but as a strong piece of jointer work it certainly is not. We know today it is not necessary to keep a fracture up for endless weeks and the tendency is to shorten the period more and more. The union we get by callus is very different from true bone repair, which is a much longer process and as we cannot wait for this, we take down our splints earlier to the great advantage of the patient.

The life of a muscle like that of a joint is action. Confine a muscle and it quickly atrophies, confine a joint and it stiffens. Now we are so accustomed to think of the heart as the force in the circulation of the blood that we are all too apt to fail to realize how important is movement to both muscle and joint as regards their circulation and hence their nutrition and perfect function.

Even a trained athlete with perfect developed muscles can notice a difference in power after even short periods of inactivity while the fakirs of India in religious frenzy cause complete ankylosis of all the joints in an arm by holding it rigid above the head for long periods of time. Shall we continue to be surprised if after confining a fracture for many weeks we get stiff joints and weakened muscles which may never entirely regain their full power especially if our patient happens to be over fifty years of age.

Now as regards the X-ray, while its use is always an aid, if only to confirm the diagnosis and to assure one of good redutcion and replacement, one need not feel he is not properly equipped to treat the ordinary run of fractures if he has not at hand an X-ray outfit, for often, even those who have such an outfit are unable to get the patient to the apparatus until the fracture is healed, when it is too late to do other than to explain impaired function we have already observed or to indicate the need of more radical treatment which the impaired function or deformity itself suggests.

We must remember it is not always fair to judge the result of treatment by a skiagram taken after the fracture has healed. On this point Cotton says: "In the best cases the X-ray shows abnormal position of bone ends, in less good cases things always appear far worse than they are." Stimson writing on the X-ray has this to say: "It must be borne in mind that the skiagram is the reproduction only of a shadow * * * The elements of the shadow are distorted by differences in the relative distance of the various parts from the plate and in the angle of the rays, and because of the absence of perpective these distances are not indicated. * * * Except for well defined changes in outline of a single bone a skiagram can-

not safely be taken as proof of all it seems to show, but needs to be interpreted by the aid of clinical findings and of considerable experience in its use. Particularly, I think, do we need to be on our guard against assuming that dark lines across spongy bone always indicate lines of fracture."

For some time my own practice has been based on these outlines and I know I have improved my results, made my patients more comfortable and have hastened their recovery. It is always best to put up a fracture as soon after injury as you can and to use the simplest splint that will retain it in place; it takes only a little mechanical skill to meet the conditions and special splints are not required. I consider of the greatest importance the daily adjustment of the splints for at least the first two weeks, for only in this way can one be certain to balance the disturbing elements of muscle retraction haemorrhage, and inflammatory oedema and retain the fragments in the best position. Next I consider that massage and movement as introduced by Lucas-Championniere is a very great aid, it adds much to the comfort of the patient and hastens recovery. The method is simple, consisting of friction or rubbing of the skin and kneading of the muscles and deep tissues, always gently done so as not to give pain; this is combined with passive movements of the near by joints and it is not necessary to put the joint through its full limit of motion as limited motion will answer perfectly and there is no danger of displacing the fragments. Slight movement of the fragments during massage and passive movements are unimportant and will not delay union, rather does it quicken union for have we not this end in view when in delayed union we rub the fragments together hoping thus to encourage union. In giving massage and passive movements one must be careful to support fracture, the hand acting as a splint. It is always best to do this yourself and not to leave it to another, the adjustment of the splints, the massage and passive movements takes but twenty minutes to half an hour a day and the results will amply repay you for the trouble. As the union becomes fixed, that is after the end of the second week you can permit the patient to move the joint himself thus supplementing the passive movements but always supporting the fracture with the hand as a splint. Massage and movement improves the circulation and hence the nutrition and repair of the parts, it soothes the nerves, gives tone to the muscles and when the time comes to remove the splints the patient can begin at once to use the limb. In the fractures of children massage and movement are not so important for the resiliancy of all growing tissue is such that they will take care of themselves but with adult life and especially with the declining years you must resort to massage and movements if you desire the best results. It is not enough that the treatment of a fracture you secure good replacement of the fracture and good contour of the limb; when you take off your splint your work it not done. Don't now say to the patient you are well and all that is necessary is to use the limb and it will come all right.

When the splints come off your work is only part done and the end is not until the limb returns to good function. Neglect this and some one else will get the credit of your work.

PUBLIC DUTY TO PHYSICIANS.

Chas. A. Greer, M.D., Oglethorpe, Ga.

One of the most encouraging features of modern civilization is the general interest which is being aroused in the matter of healthful and hygenic methods of living. Various organizations, composed of both lay and professional men, have been active for the past few years in advancing public sentiment along these lines. Quarantine, and fumigation, are becoming to be universal wherever contagious diseases appear. The demand for pure water, and pure food is insistent. Systematic school inspection for the detection of incipient diseases among the children has been in successful operation for several years in a number of the larger cities. All these advances have been the result of agitation and education among the laity, by progressive physicians. The improvement over practises of but a few years ago is notable and satisfactory.

Dreaded yellow fever is now easily controlled in its outbreak, and we know that we can prevent its spread. Bubonic plague has been prevented from spreading in one of our large cities. Tuberculosis no longer claims its victims unchallenged and those who contract it are not abandoned as hopeless cases, but many, in the incipient stage, recover. The longevity of the race has been perceptibly lengthened. Corporations employing large numbers of men are taking an interest in the welfare of their employees, and are striving to make their labors less

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dangerous and their homes more hygienic. The credit for these achievements is freely accorded to the medical profession which has brought it about. Therefore it seems that the time has arrived when the people of every avocation should come forward and unite with the medical profession, in the warfare against disease, in order that greater achievements may be obtained, and a purer atmosphere may prevail all over this great Southland in which we live. It is not only the public duty, but it should be the pleasure of every public spirited citizen to take a prominent stand for a pure sanitary condition in every nook and corner throughout the land. Not only should every citizen support such measures as we advocate, but he should constantly advocate, and he should continually do missionary work among the people with whom he comes in contact, in the way of educating them up to the point where they will themselves demand that our law-makers take an advanced stand on every matter touching upon public health and sanitation.

One of the most deplorable of all spectacles is to see a man decrying or discouraging any measure which looks to the good of the people as a whole, wether it be concerning vaccination, quarantine or fumigation, following an infectious disease. It is the duty of every law abiding citizen, especially among the most intelligent, to post himself on all matters pertaining to preventive medicine, so that he may intelligently offer advice, either when it is sought, or as a missionary among those too ignorant to see and feel the need of such teaching. By doing this the physicians would not have to be delayed in their work of furthering investigations, by having to stop and answer questions, and explaning reasons for persistent and careful precautions. It is also the duty of the public to believe and abide the advise of the physician, when he tells you to pay no attention to the man or firm who guarantees to cure your ills, and recommends through the mail remedies that are sure cures. Believe us when we tell you that these quacks and drug nostrums are dangerous and are nothing but humbugs. They not only aid in wrecking your health but they use this medium in making you a poorer man financially. On the other hand it is the duty of every intelligent person to help us enact such laws that will drive from our state such institutions and force them to seek an honorable way for making a living. We are members of a profession whose ideals are altrnistic and beneficient; whose self-sacrificing devotion to duty in the prevention of human ills the amelioration of their suffering and the increase of health, happiness and well-being will ever entitle us to the highest consideration at the hands of the public.

Doctors, more than any other class of men need recreation, and are often criticised by the laity when they attempt to take it. We have long hours, and we must necessarily be irregular in our habits of eating and sleeping. Our work requires the most exhausting physical exertion and the most intense mental effort. Our responsibilities are great because we know that at all times human lives are dependent upon our skill and learning. Therefore in order that we may be more attentive and successful in our daily routine of scientific research, we must be aided and encouraged in our onward movement for higher and nobler attainment. The efforts that is being put forth by the medical profession for better health and fewer diseases is not for pecuniary gain, but our fellow citizens might enjoy better health and add more years to the lives of men. We feel that it is our duty to do this, and any doctor who does his duty is worthy of a great reward.

Indeed the physician's life is a hard life. For countless are times at the "wee small hours" of the cold and stormy nights when we have been called out of our good and warm beds to see little Willie with the colic, or sister Jane with the hysterics. This story is told on an old Georgia doctor, who on one occasion was asked if doctors ever got to Heaven? He replied, yes, every doctor who does his duty goes to Heaven when he dies. For once I dreamed that I died and went to Heaven, when I reached the pearly gates and knocked for admisison, St. Peter said: "Who comes here." He replied, "a doctor who did his duty on earth." Then St. Peter cried out in a loud voice: "Sound ye the trumpets and let all the angels sing his praises! Let the doctor enter and take a high seat in heaven, for he had a hell of a time on earth."

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HEALTH IN SCHOOL WORK.

A. G. Fort, M.D.

Our greatest need in the South seems to be the application of knowledge already at hand or easily accessible in protecting the Southern families on the farms and in the small towns through properly organized health agencies. By using the word family, we refer to every man, woman and child in our Commonwealth. Steps are every day taken to provide for the medical men, means of gaining knowlege from bedside instruction, in order that the sufferer may be given the best of attention and more accurate scientific treatment.

Of the $163,000,000 in public benefactions last year, $19,100,000 was for health purposes. Of this not one dollar was for teaching men or government officials how to use knowledge already possessed for the protection of human life, while $6,800,000 was for finding facts not known about, cancer and other diseases; $12,200,000 for hospitals, and medical colleges. Does it not appear strange to you that so much money will be given to take care of the sick and injured, and most of it occasioned by preventable causes, and not one cent given to teach people how to live in order that they might not need so many hospitals and so much medical attention? Was it not better for Havana, Cuba, to have yellow fever stamped out than to provide hundreds and hundreds of doctors with scientific means for treating the disease? Prevention of disease and the removal of defects which tend to dwarf mentally as well as physically would add more to the financial condition, and to the ability to grasp and use to the good of the state educational opportunities offered, than anything with which I am acquainted.

In the light of facts gained in the inspection of about 500 schools with an enrollment of about 40,000 pupils in Georgia, we are deeply impressed with the fact that diseases exist among these children that are preventable diseases and curable conditions. Some contract these maladies from unsanitary surroundings and poorly ventilated school houses; and the same conditions around the homes. The old log cabin as a school house was a great institution in its day. The candle as a means of illumination was great in its day, but millions of defects and injuries of the eyes and to health of individauls was the price paid for knowledge in that day. Conditions, surroundings, and environment were different then, from what they are now. Large areas were at the disposal of each individual. Quick communication and travel has brought us closer together. Good roads have brought town and country in close proximity. Railroads have brought the rural districts within an hour of the city.

The crowding of children in the schools of the cities has for years been the cause of the spread of diptheria and scarlet fever, measles, whooping cough and other diseases, and these same children have visited the country and spread these diseases to the schools in the rural districts. In turn the children visiting from the city to the country districts have carried back to their city homes hookworm infection and malaria as a result of the lack of sanitary conditions surrounding the homes and school houses, in our rural districts. It has been long known that medical inspection of school children was essential in some of the Northern cities. It is not a matter of experiment, but is a matter of necessity. If we are to have strong men and women, we must raise strong healthy school children. Are the children of the rural districts or the small towns any less individuals, any less important or any less to be protected than the school children of the cities? Let us see if the children of our State need protection from diseases or if they need to have the defects of vision or of hearing corrected, and if they are incumbered with adenoids and diseased tonsils or infected with hookworm disease. Of the children in three counties of Georgia from which we have facts bearing on these subjects it appears that there have been examined:

	White	Blacks	Total
	1202	1269	2471
Hookworm suspects	700	499	1199
Defective vision	175	26	201
Defective teeth	453	226	679
Lung disease	16	27	43

Of 59 schools in two counties there were only 17 privies of any type and they poorly constructed.

Hookworm disease is that condition caused by hookworms, small intestinal parasites about one half inch long, and about the size of a No. 1 sewing thread, attaching themselves to the mucous membrane of the small intestine, and sucking blood from the individual. This disease is characterized by various nervous disorders, vauge intestinal pains, various forms of indigsetion, paleness lack of energy, lack of physical development lack of mental development, and in the later stages, dropsy, heart trouble, great phy

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sical weakness and occasionally death. Ground itch or dew poisoning is evidence of the small worm or larvae penetrating the skin of the barefooted boy or girl, and is known as the initial symptom of this disease. The number of worms present in the intestine varies from ten or twleve to as high as forty-five hundred. This disease has been found to be heavy in 52 counties, as light in 27 counties, as demonstrated in 52 counties, leaving 15 counties from which we have received no reports. We mean by heavy that 20 per cent. or more of the children in a county are infected; by light less than 20 per cent. Each child is suffering from a preventable and curable disease, which deprives them of the opportunities offered in the way of education and places a heavy expense on each community in providing schools and teachers for many physically and mentally unable to take advantage of it.

Inasmuch as of 59 schools examined there were only 17 privies, and they poorly constructed, and as hookworm disease is spread by means of soil pollution we can readily understand and see the relation between the disease and sanitation. Not only hookworm disease spread from such unsanitary conditions, but typhoid fever, and many forms of dysentery are spread from the same sources. So much from the standpoint of health, not to mention, the effect upon the after life of a child from such adverse environment.

Defective vision—is a defect found in 201 of the 2,471 examined. The defects examined for are those, first of far sighteness, nearsightedness, and irregularity of the cornea. The first defect makes it difficult for the child to learn from his text books, and causes headaches, inattention, to the text book lessons, and adds to tendency towards truancy and such on the part of the sufferer. He can readily grasp blackboard instruction. Nearsightedness renders the child unable to see objects at a distance and deprives them of the advaantage of blackboard instruction. It, too, causes eye strain and headaches with the result that they too, play truant as do the farsighted. Those suffering with the irregularity of the eye are unable to distinguish between such letters as "a" and "e" and "c" and "o" and make up a class of students who read poorly and who also are unable to gain advantage of blackboard instruction. An examination of the eyes of these children, and the fitting of proper glasses will add greatly to the efficiency of the student as well as to the evenness and swettness of their instructor's disposition. Poorly arranged desks relative to light is quite often the exciting cause for these defects.

Defective teeth—teeth as we all know are for the proper preparation of food to be taken into the stomach. They stand at the gateway of the human body. Many forms of indigestion are directly tracable to defective teeth. Many enlarged glands of the neck to the same cause. Through them, many disease germs gain access to the human body.

Lung disease. By this term we refer to incipient tuberculosis, and a few other chronic troubles which make of the lung fertile fields for the development of the tubercle baccillus. There are also included in this number some few who have the disease well developed and how by their careless habits of spitting anywhere, expose hundreds of now healthy children to this infection Poorly ventilated school rooms, improperly swept floors, improperly dusted desks all tend to vitiate the air inhaled by the school child. Protection of our children from this infection is essential, if we desire the stamping out of the "Great White Plague."

Poorly constructed privies and lack of same around school buildings—Typhoid fever, is often spread by improper disposal of human excrement. Germs of the disease being carried directly into streams from which drinking water is secured, or germs carried means of flies to the food of the school children tinal disorders such as summer diarrhoeas ren. Hookworm disease and various intesare often tracable to the lack of sanitation. So much with the privy as to health.

One county in our State has gone so far as to take the position that no school ground is a fit place for the teaching of their children unless it is properly provided with sanitary closets. This county is greatly to be commended for the position it has taken, and the influence for good will spread to every section of it, eminating from the school houses.

Of all the subjects of which the average Southern man and child are ignorant are the methods of proper living, and proper protection from disease comes first. Where is the first point of attack? I say, as you will say, the children in the public schools of our State. Should we not place these children while at school under certain sanitary regulations, and exercise certain sanitary safeguards so that they might be protected from disease while there? That is not all, for these principles are instilled into the children, so that when they become men and women the heads of families, they will apply them to their own homes, and protect

themselves and their families from many things from which they and their parents suffered in years gone by. We believe in compulsory education, and we believe that it is well for our country that each man be developed into an educated man, but we do not believe that it is right for the laws of our State to force your child and mine togather together in unsanitary school buildings in crowded rooms, and to be exposed to the various infectious diseases and unsanitary conditions surrounding the school houses in our State, or the average church in our State. When the cry is raised for compulsory education let it be for "that broad education which looks to the protection of the children physically in order that they might develop mentally and morally." For "What shall it profit a nation if through education, they gain all power intellectual and spiritual, yet through disease lose their physical vigor, their body, by which alone, they can act upon the world." So when our children are forced to attend school, as they are now to all intents and purposes, let us safeguard them by having it somebody's business to look after their physical welfare.

Unfortunately it is not true that a cause is always very far advanced, when every one sees the necessity of promoting it, and when it is on every one's lips. Oftentimes consciousness of a social need and especially these bearing on health and efficiency act as "soothing syrup" on the public mind, unless backed up by administrative acts, which demand conscientious, intelligent, efficient daily routine work. With the public conscience educated to the need of health laws and their enforcement it becomes an easy matter with those in authority to apply the necessary measures. No class of men in our state bear the same relation to public health as is borne by men of our profession, so gentlemen, if we with our eyes open to the needs from a health standpoint, should we not educate people in our communities, especially the children, the necessity of the protection of the sanitary conditions surroundg the schools and school grounds, of the inspection of children for removable defects, and curable diseases? By doing so, we will add greatly to the efficiency of the schools of our State, to the efficiency of the individuals of our State, to the happiness of the people of our State, because health is necessary for happiness. Health is also necessary for the application of education to man's work. I present these thoughts so different from those usually presented to an organization of this kind, because I believe that we should do all in our power to aid in perfecting the school system of our State. Everything being done by the Department of Education is in the right direction, but it lacks that fundamental solid basis to which it must come, health first, education following.

We have paid dear for the slums of our cities for the unsanitary conditions around our homes, in our towns and around our school houses, and have given hostages to fortune leaving a heavy debt for posterity to liquidate. No one has ever attempted to estimate the cost to the nation, to the home, to business, to the school, to the church, of our unsanitary conditions and improper housing, because it is an impossible task. Who can say, of the vast army of unemployed, how large a part of the industrialy inefficient are so because of their lowered vitality, caused by disadvantageous living conditions at home, in the school, and in the church? To what extent are the unsanitary conditions mentioned responsible as an element in the problem of inebriety? Of the burdens which the State is called upon to bear in the support of almshouses for the dependent, hospitals for the sick, asylums for the insane, prisons and reformatories for the criminal, what portion can fairly be attributed to adverse early environment?

Despite our vaunted civilization our material prosperity, our increasing love and appreciation of things artistic, our difusion of education, our high standards of liberty, our greatly increased culture, we are still in many respects far behind the forward movement of some nations, along the line of protecting that one thing which, next to life and honor, yet intimately connected with them, should be most sacred to each man, the health of his loved ones and himself.

New State Journal in Georgia—In line with the action of other states the Medical Association of the State of Georgia has begun the publication of a state journal as the official organ of the association. The first number appeared in August. It is under the editorial management of the board of councilors, of whom Dr. Wyman W. Pilcher, Warrenton, is chairman. It is issued from Augusta. The first number contains a number of interesting papers and discussions, the program and minutes of the 1911 state meeting, society reports, some editorial comments, personal items, book reviews, etc. It is a very creditable number, neat in its mechanical appearance, and should succeed.—Journal A. M. A.

THE NEED OF BETTER STANDARDS FOR PHYSICAL DEVELOPMENT IN OUR EDUCATIONAL DEPARTMENT.

A. H. Stovall, M.D., Vienna, Ga.

It is my purpose at this time merely to call your attention to a condition existing in our schools and educatinal institutions, which perhaps has already come under the observation of many of you.

Systems or government often move forward or backward by revolution; reforms in educational institutions come mostly by evolution. And yet with all our boasted progress and increase of educational facilities we have been repeatedly struck with the absence of advancement of one exceedingly important factor in our institutions of learning, and that is the proper physical development of the student—the putting into balance, so to speak, the correct relationship of physical to mental training. I refer here, it will be seen, to Physical Training and not so much to Medical Inspection, except as the latter has to do with the former. Uncinariasis and Malaria are not the only factors that make for the anemic child and sluggish youth, but a prolonged sitting posture in a close school room, with limited opportunities for the stimulating exercises necessary for speeding the red blood on its errand as repairer and eliminator of tissue waste. Six of the best hours of a childs day are spent in this way, allowing an hour for a gulped down lunch and perhaps thirty minutes for recesses. Then should be added one to three hours for home study and except for an incidental basket ball outfit here and there there is usually absolutely no provision made by school authorities for the physical development of the pupil.

But we refer here more particularly to our higher institutions of learning, with especial mention of our female colleges. As for our colleges for boys we well know the conditions that make for the over development of the few who make varsity and the under devolpment of the student body who do well to get two hours a week "gym."

We understand that in our female institutions rarely is that provision carried out with any degree of regularity on thoroughness. Living in dormitories connected with the school, practically cooped up as pigs in a pen to fatten, which many of them do in an abnormal way; or else as a result of lack of opportunity for the expenditure of sufficient physical energy for proper tissue combustion, and the desired elimination of the end products of cell metabolism, there accrues a nervous tension due in part to digestive disturbances, and also to an unnecessarily exaggerated emphasis of the mental over the physical life.

A walk through the grounds each day is supposed to atone for all the sins of physical omission that are perpetrated against the laws of health each day.

In many instances have we had occasion to observe the disastrous results of conditions mentioned above, and the necessary return of many of our girls before their terms were completed.

Much might be said about the curricula of our schools, most of which place all the emphasis on classical learning as perhaps the only road to culture, to the exclusion of the manly arts and sciences that bring health and grace to the body, and a life of usefulness to the individual later; and in the case of the girl, the future mother of a family, that rounded happiness in the home life that comes with physical as well as mental vigor. But it is not our purpose to discuss that phase of the subject at this time.

As former medical students coming more immediately home, we are all more or less familiar with the grind that took not the slightest heed to the need of exercise, and that included even Sunday in its regular though perhaps sluggish turning of the brain wheels.

We maintain that an all round man fit to cope successfully with the world's demands can not be developed in this way, and that advancement in this direction is not consistent with our progress along other lines. We want to develop not merely a nation of intellectual, but of moral and physical giants; and moral bravery has a poor chance in an untrained and weak body, and this with all due reverence and admiration for the many illustrious exceptions.

Culture becomes retrogressive and cilivization runs to seed when too far removed from the plow handle and the kitchen, and I believe that the schools of the future will bring us to a better balanced system that will make for a rounded manhood, and it is the part of our profession to take the leading part in bringing about such reforms.

Read at the Meeting of Third District Georgia Medical Society, Oglethorpe, Ga., June, 1911.

The X-ray shadow of a deposit in the subacromial bursa may easily be mistaken, by the inexperienced, for that of a fracture of the tuberosity of the humerus.

VERATRUM VIRIDE AND SOME OF ITS USES.

J. E. Mangham, M.D., Reynolds, Ga.

In presenting a paper on such a subject as the uses of veratum I feel that I am due this association an apology and my only excuse is that this is one of our most valuable remedies in properly selected cases, and judging by the physicians with whom I come in contact from time to time it seems to have fallen at least in to disuse if not disrepute. I find that great many physicians do not use veratrum because they say it is such a powerful remedy that they are afraid of it, and yet it is certainly one of the safest if not the safest of the spinal and cardiac depressants.

H. C. Wood, in his admirable work on therapeutics says of it, that "it is a prompt, thoroughly efficient and at the same time a very safe remedy; very safe since it is almost incapable of producing death in the robust adult unless used with great recklessness and in repeated doses." Given in moderate doses veratrum first reduces the force of the hearts action and then gradually reduces its frequency and by pushing it the pulse becomes soft, though still full and you can reduce its frequency down to forty and even as low as thirty per minute without any bad effect. Should the pulse weaken and the patient become nauseated you need feel no alarm for by withholding the remedy for a time or reducing the does it will correct its self in a short time but if you are uneasy and prefer not to wait, a small dose of whiskey, morphine or laundanum will relieve it very promptly.

In the first stages of lobor pneumonia in a robust adult with high temperature bright eyes; flushed face and full bounding pulse I know nothing that will so surely and promptly quiet the nervousness and excitability as full doses of veratrum.

Given every three hours in doses of six to eight drops of Norwoods Tincture until the pulse comes down from one hundred and twenty or one hundred and forty to seventy to eighty or even lower if you wish, you have not only reduced the frequency of the hearts action but you have lowered the blood pressure andthus given the engorged lung time in which to empty itself.

Read at the Meeting of Third District Georgia Medical Society, Oglethorpe, Ga., June 14, 1911.

Now when the pulse rate has been reduced to seventy or eighty you can either reduce the size of your dose or stop it entirely; though I rarely stop it entirely until about the third day, being governed by the condition of my patient.

Now don't understand me to stay that I abort or cut short an attack of pneumonia for I never said it, but I do say and believe that I influence it very favorably.

Another condition in which I have found veratrum a sheet anchor is puerperal eclampsia, given a woman with headache and rapid pulse perhaps some nervousness either before, during or after labor and you naturally expect an eclamptic seizure and unless you do something very promptly yourself, the chances are that there will be "something doing" with the patient in a very short while and it is right here that veratrum has done me good service again.

The time is too short in which to give it by the mouth for you want its effect quickly to give it hypodermically and in large doses.

I do not hesitate to give ten drops of Norwoods Tincture together with half grain of morphine sulphate, and keep giving the veratrum in five drop doses every thirty minutes until the pulse rate drops to sixty or even fifty; aand with a pulse rate of sixty per minute I defy any woman to have a puerperal convulsion.

Still another condition in which I have found veratrum of material aid is in threatened uraemia and in cerebral hemorrhage for with it you can safely and surely reduce the blood pressure; the first thing above all others to be desired in these condtions.

I might go on and multiply the conditions in which I have found it useful; but after becoming familiar with its physiological effect and learning not to be afraid to push it when necessary; it will naturally suggest itself to you many times.

In using the fluild extract or tincture of the Pharmacopea as put up by the different manufacturers, I have found them to be so unreliable that I have come to rely wholly upon Norwoods Tincture.

The more money The Journal of Medical Association of Georgia makes out of its advertisements the less it costs the State Society to run the paper. This means that every member of the State Society has an interest in the advertising columns. If one business firm advertises and another does not, patronize the one that does. It is money in **your** pocket.

ERRORS OF REFRACTION.

T. E. Bradley, M.D., Cordele, Ga.

Mr. President and Gentlemen:

The title of my paper is probably misleading. I have made no attempt to present a scientific paper on refraction, but desire to call your attention to that class of refractionists known as "eye specialists, optical specialists, eye doctors, &c., who for preparation and equipment have a trial case, stock of spectacles and a smooth tongue.

In my town we have one man who advertises extensively as doctor, and is generally known as doctor. He makes a house to house canvass, and is located at one of our leading drug stores, the druggist of course gets some free advertising, and a commission on the business done. Other "eye specialists" are with us often, and they all seem to flourish. The news papers reap a rich harvest in the way of advertisements, and quite often give them an editorial extoling their greatness as eye specialists. The conditions that exist in my town are most likely common to all other towns in this section.

From the fact that these men advertise as doctors, they draw patients who are often suffering from diseases of the eye, their treatment is, of course, always glasses, the patient is impressed, and goes away with a false feeling of having been benefitted. It is surprising to know some of the means they use in making sales. An instance: Mr. A's wife was suffering from muscular rheumatism of the shoulder and arm, a typical optician comes along, and tells Mrs. A that her rheumatism can be easily cured by the proper glass, but that this glass must be an "electrified" glass, and will cost her twenty-five dollars. She readily agrees that if the glass will do the work, she is willing to pay the price. Strange to say, this glass does not cure the rheumatism, and when Mrs. A awakes to this fact the optician is working the same game in other territory.

Patients quite often ask me: "Doctor, are your glasses medicated, imported, magnetized, &c." when told that there is no such glass, they reply that doctor so and so had given them such glasses. I frequently have patients come to me wearing simply plain lenses, and on examination find them suffering from one or more of the various eye diseases. The optical faker could not find a lens that would aid the vision, but must make a sale, hence the plain lens. The above are some actual occurances in my practice, and I am sure that every oculist especially in the smaller towns has a similiar experience.

The general practitioner can easily verify these statements by making some inquiry among his patients, but to do this you will have to take the initiative for the large majority will not consult you when they need attention for their eyes, but go straight way to the advertising specialist who has wrought such wonderful cures, and who they think is much better prepared to advise them than you are.

This phase of quackery is very similar to the patent medicine advertiser, but has assumed even larger proportions from the fact that these men not only advertise, but make personal canvasses in both country and city. I dare say that as much money goes from this country for worthless glasses as for patent medicines.

Most drug, jewelry and ten cent stores carry a stock of glasses, and make a pretense at fitting. Refractions of this kind can not in any way be accurate and that glasses of this kind do much harm can not be douted, but the harm done by a fake device of any kind is in proportion to the amount of reliance put in it by the user. These stores do not make much pretense at expert refraction, and their charges are very modest. The patrons of these stores soon find that their glasses are not right, and discard them, but the "eye specialist" with his prevaricating advertisements, and his fee of from ten to twenty dollars does command confidence, the impression he makes causes his far sighted patients to continue wearing their near sighted glasses, the impression he has made leaves no doubt in their minds as to his fitness. These men enjoy practically all the privaleges of the oculist wth the added privilege of being permitted to advertise freely.

How had we best overcome these conditions? My opinion is that it is due to ignorance, I believe that if the laity knew the compostion of patent medicine with the alcohol in the tonics, the opium in the pain relieving agents, the cocaine in the catarrh cures, &c., that they would hesitate, and at least seek the advice of their physician before purchasing them. I also believe that if they knew an optician has only to take his trial case, and go to work, that he is in no sense a physician, has absolutely no knowledge of the anatomy, physiology and disease of the eye, where as the oculist must have spent the required period in a medical college, passed a satisfactory examination be-

Read at the Meeting of Third District Georgia Medical Society, Oglethorpe, Ga., June, 1911.

fore the State Board, and then specially prepared himself for this work.

I believe gentlemen, that if the laity knew these things that the problem would solve itself, they would come to you for advice in these matters, and you would refer them to an oculist, the majority of whom would at least treat them honestly.

One physician tells me that he makes it a rule to bring up this subject in every family for whom he practices, explaining to them the wisdom of consulting a physician rather than an advertising faker. This physician sees the results of his campaign of education on this line, and is enthusiastic. Only a few days ago he referred a patient to an oculist for refraction, an opthalmoscopic examination revealed a retinitis, instead of prescribing glasses the oculist referred this patient back to him with explanations, a urinalysis was made and albumin found, this enabled the physician to get at the disease in its incipency.

Had this patient sought relief without consulting her physician, she would in all probability have gone to an optician, been promptly fitted with glasses, and a considerable time would have elapsed before her general condition would have indicated nephritis. If every physician would do as this one is doing he would materially aid the oculist in his fight against these fakers, and render invaluable service to his people.

It seems to me that the time has come when we should take some concerted action against these various frauds, some of the medical journals are publishing articles along this line, a few magazines have taken up the work, but the class we want to reach most will rarely see a medical journal or magazine. Through the press would be an ideal way to reach the masses, but we can expect little help from this source as a large amount of their business comes from the advertisements of these very men.

We can accomplish some good by personal talks wth each family with whom we come in contact, as a rule I do not think we take enough time and trouble to do what we might inthis way, but wait for the people to ask our advice when we should make it convenient to bring up this subject without being asked. Not many physicians will appear before the public, and deliver public health lectures, but where one will do this he may be assured that his efforts will be crowned with success. To accomplish very much in this crusade against the quack and faker, we must get at it in a business like way, and I believe that one of the most feasable plans would be the use of the mails. Each County Society might create a small fund for this work, and have the secretary mail to each county voter such literature as might be decided on by the society. In this way I believe the methods of quacks, composition of patent medicines, glass fakers, devices to make the deaf hear, and the various other frauds could from time to time be effectually shown up.

My object in writing this paper is to get the cooperation of the practitioner in suppressing this king of frauds—the "optical specialist," and to stimulate a discussion as to the best method to accomplish this end. If it in any measure succeeds in this, it will have served its purpose.

SANATORIUM TREATMENT OF TUBERCULOSIS.

E. W. Glidden, M.D.

Sanatoria are the direct outgrowth of the open-air treatment. Open-air treatment of Tuberculosis is not a new thing, but its importance is not yet fully appreciated by many people and some physicians. The miserable idea that sleeping in the open air will give "colds," and that night air contains miasma which cause fever, have stood in the way of proper acceptaance of the open-air treatment by the laity.

Benj. Rush of the United States advocated open-air treatment in 1794, being among the earlier enthusiasts.

George Bodington, of Warwickshire, England, published his views in 1840, as to the proper method of treatment of Tuberculosis. He stated that open air in abundance and plentiful substantial nourishment was beneficial, and furthermore said that : "Cold is never too intense fo ra consumptive patient; the apartment should be kept well aired, so that it resembles the pure air of the outside pure air being used in the treatment as much as possible." But these views were diametrically opposed to the ruling practises. and like many reformers, he was laughed at and considered insane by the laity and by his medical brethren. The persecution of Bodington became so bitter that his patients forsook him and finally he was forced to convert his institution into an asylum for the insane.

In 1855 the world was stirred bya book published by Dr. Henry McCormac, of Belfast, Ireland, advocating the same views that Bodington had published 15 years before.

Read at Meeting of First District Georgia Medical Society, Savannah, Ga., August, 1911.

And again there was bitter opposition by the laity and the profession.

Brehmer established in 1859, a Sanatorium at Goerbersdorf, Germany, for the treatment of Tuberculosis by open-air, and his institution is still in operation. In 1873, Detweiler, another German, a pupil of Brehmer and himself a recovered consumptive—established a Sanatorium at Faulkenstein. Another German, Walther, has also established a Sanatorium, using a somewhat different line of treatment. The methods employed by these Germans proved satisfactory to a high degree and gave an impetus to the Sanatorium movement not known before. The elaboration of the Sanatorium methods, however, has really been due to Englishmen aand Americans.

In 1873, Dr. Edward L. Trudeau, of our own country, went to the Adirondacks to experiment with the treatment on himself. His friends tried to dissuade him, considering the plan foolhardy and believing that it would result in his early death. But he did not die. He lived to do a magnificent work for the consumptive and the nation. While fighting the disease in himself he conceived the idea of a Sanatorium for working men and women. This idea resulted in what is now the Adirondack Cottage Sanatorium at Saranac, N. Y. His beginning was very modest; the first building was a small one room cottage with a covered porch, where, "after much perisistence and eloquence" patients were persuaded to sit out most of the day. This was the beginning of the Sanatorium movement in America—the beginning of the humane crusade against the Great White Plague.

From this unpretentious start, the Sanatorium movement has grown until the present, when there are somewhere in the neighborhood of 300—Sanatoria in America—some run by the Federal Government, one for each branch of the service, some supported by the several States, or receiving State assistance, others by county or municipal aid, and still others are run by private charities or private corporations.

Some of the fraternal and labor organizations maintain Sanatoria for their Tuberculosis members. The growth of the number of Sanatoria is proof in itself that the method is of utmost value.

Now that we have considered the historic aspect of the Sanatorium movement, let us take up the methods employed in these institutions. As already stated, the Sanatorium idea is not a new one, but just an application of the best methods at the disposal of medical science ,aided by all possible natural advantages and hampered by fewest disadvantages. A Sanatorium is unlike any other institution. It is a hospital without the atmosphere of a hospital; it is a hotel, as it were, exclusive for consumptive persons, all helping one another in the fight against a common enemy; it is an educative center, teaching the patient the way to cure himself of Tuberculosis, showing him the joy of hygienic living and sending him out as a missionary to teach the pospel of hygiene; it is, further, a social and industrial community. As Newsholnme says: "It is a great mistake to regard Sanatoria as merely cure places. They are schools of national consequence."

While open air is of utmost importance, there are other factors which claim much attention in sanatorium work. Prominent among these are rest and exercise, proper nutritious food and medicinal treatment; rest and exercise first, because they are most beneficial; medicinal treatment last, because it is of least consequence.

In febrile cases, absolute rest in bed is necessary. As the lung and general conditions improve, the patient is gradually placed upon light exercise, such as a short stroll on the level ground, beginning perhaps on only five or ten minutes, cautiously increased as the condition of the case warrants. When marked improvement is shown, he may be required to do certain work as part of the treatment, this work being done under strict medical supervision, and the pulse and temperature watched very closely. I am an enthusiastic advocate of properly regulated work alternating with rest. If patients are treated by enforced rest, without work, for many months, they are often incapacitated for their former occupation or any other. They lose a great deal of the weight gained, the lung improvement does not continue permanent and there may even be relapses. Nor is the patient as happy in the Sanatorium when work or exercise is not allowed. In assigning exercise, we try to give the patient work closely allied to his previous occupation or similar to that which he proposes to follow after discharge from the Sanatorium. I would like here to make a protest against the habit of always telling a patient he must get an outdoor position. In many cases, the employment he will secure will be worse than a good indoor position. Then the strain of learning a new calling is a factor that should be carefully considered before advising a patient to change his occupation. Whatever advice is given in these cases, however,

should be accompanied with an earnest talk to the patient, warning him that his life must be well ordered and his health carefully watched.

Proper nutritious food is of hardly less importance, and Sanatoria try to keep their table above reproach. The dietary is carefully thought out and the officers keep a close supervision over the table at all times. The old treatment with forced-feeding is being abandoned by most Sanatorium authorities, and justly so. It is pitiful to see patients struggling with huge meals and then shortly afterward trying to force down quantities of milk or several eggs. No wonder the stomach revolts! It may be necessary in private practice, where the Doctor cannot have the patient under constant supervision, but not in Sanatoria except in unusual cases. My experience, indeed, has inclined me to even abandon the use of eggs as routine treatment. The main considerations in the dietary are that the food should be of sufficient quantity, of a readily assimable character and attractive to the palate. Much medication can be avoided by proper feeding. Three substantial meals and about two quarts of milk daily seem to answer the purpose better than super-alimentation. I judge that this dietary offers about 3000 to 3500 calories in the 24 hours.

Medicinal treatment has been overdone and in many cases has been harmful. The routine administration of drugs in all classes of cases is a pernicious practice. It is often responsible for directly injurious results upon the digestive functions, and gives a false sense of security which often results in loss of much valuable time and in the advancement of the disease, before the patient finally goes to a more rational therapeutist. I have particular reference to cod-liver oil emulsions, cough syrups, tonic hypophosphite, hyoscine and such nauseating concoctions from the drug shop. The importance of drugs in the treatment of Tuberculosis is in alleviating symptoms that are often so distressing; no drug or drugs can cure Tuberculosis. Medical literature is replete with so-called curative drugs and false specifics for Tuberculosis, all of which "have had their little day and passed away;" none have stood the test of time. Only a short time ago, hydrargyrum succiinnimide was lauded by Wright, a Naval surgeon, but no other investigators have been able to obtain the remarkable results that he did. Confidence in the physician-in-charge, and careful co-operation in the treatment usually convince the patients of the lack of necessity for drug treatment and symptoms disappear with surprising promptness without drug interference. Night-sweats, for example, soon stop after beginning the open-air cure; under the same regime, together with exercise of will power, cough abates. If the symptoms are really distressing or do not disappear under this method, the comfort and best interests of the patient may be conserved by the temporary use of medicaments. There is no disease which calls for fewer drugs or more Doctors' orders than does this dread "Captain of the Men of Death." No patient is so intelligent as to be able to care for his own case; a patient must not be left to his own inclinations as guides to his habits, exercise or medication. Medical treatment of symptoms will be discussed briefly later in the paper.

In Sanatoria, patients are encouraged to remain out-doors at all times, day and night. At night they sleep out-doors on verandas properly covered aand protected from rains and driving winds. Bed-time is set so that 9 or 10 hours of sleep are assured and after dinner each day, a rest period is observed, during which time patients are required to rest in bed or in their reclining chairs. During the day they sit out on porches or on the lawns, or if the weather and their condition permit, they stroll about the grounds, play quiet games such as croquet, etc., or occupy themselves at rafia or fancy brass work, or some other of the lighter arts and crafts. Such things as these are encouraged In the evening they are allowed to congregate in the recitation halls for reading and writing, music and games. At times, the patients may be required to do certain light duties as for instance, sweeping out their living rooms, gathering up paper from the grounds about their "shacks;" some are employed for an hour or so in the office.

I am asked occasionally whether constant association with sick patients does not have a depressing effect, and if there is no danger of re-infection. To both questions "no." Often when a patient comes to a Sanatorium he is depressed with the fear of seeing so many victims in the same, or worse, condition than he is himself. But after being there a few days he finds the association a consolation, for he finds himself among a happy, cheerful group of people, all trying and expecting to recover, each helping the other. Soon he improves in health and becomes "one of the fellows;" his former depression has disappeared. Gentlemen, the atmosphere of a hospital does not exist in a well-run Sanatorium; association with other

curable cases is really encouraging to patients and one of the advantages of sanatorium treatment. We seldom hear complaints on this score after the patient has been with us a few days, except where he is of a very morbid temperament. Trudeau says of modern Sanatoria that they "cure sometimes, relieve often, comfort always."

As to the danger of re-infection, no danger is more remote. All precautions are taken to prevent the distribution of the bacilli, all sputum is burned and everything liable to harbor germs carefully disinfected. Patients are taught how to care for their sputum, to cough into pieces of gauze which are burned so that the danger of infection is nil. There is no case on record of a healthy employee having been infected during service in a sanatorium.

The usual time of treatment in sanatoria for incipient cases is about 6 months and remarkable results are often obtained in that length of time. This is not intended to mean the length of time that a case should "chase the cure," he should continue to do this for a year or two after returning to his home. During residence in the sanatorium all the measures of which I have spoken are employed and perhaps others. Tuberculin may be used, and it is in Sanatoria that Tuberculin can be used to best advantage because of the constant medical supervision.

Febrile patients are treated by absolute rest in bed, 99.5° being the maximum temperature with which exercise is allowed. When this temperature is reached, the patient should be sent to bed until the afternoon temperature no longer rises above normal. With rest in bed, hydrotherapy may be employed, and recourse should not be made to antipyretic drugs until these have failed. Of antipyretics I have found Pyramidon to be the most efficatious and least depressing.

Hemorrhage patients, of course, must be sent to bed and kept there until 7 or 10 days after spitting of blood has stopped. His bed should be without a pillow and the diet of the lightest, most easily digestible character, preferably liquid. All excitement and anything tending to raise the blood pressure must be avoided. Experience with blood coagulants, such a calcium salts, iron preparations, etc., or with vaso-constrictors, as ergot and adrenalin, have not convinced me of their value in tubercular hemorrhages. Put the patient immediately to bed, give Amyl Nitrite by inhalation and the hemorrhage usually abates shortly. Continue rest in bed and give small doses of Codiene or Morphine to ensure quiet, keeping blood pressure down. Do not give gallic or tannic acids or the astringent iron preparations.

Night sweats do not usually call for medication as they generally disappear soon after sanatorium treatment is instituted. Cold baths often help this condition. Alcohol and alum rubs may be of service. Agarisin gr. 1-10 is of value, as is also atropine.

Insomnia may be troublesome. A glass of warm milk at bedtime will sometimes be all that is necessary to relive this. At other times it may be that Trional or Bromides may be required, but it should be remembered that the condition may be a protracted one aand habit-forming drugs should be avoided.

Cough is unnecessary in many cases and often becomes merely a bad habit. Here the personality of the medical attendant and the confidence of the patient in him will be the keynote of the situation. We will explain the cause of the cough to the patient and show him the danger of unrestrained coughing. Will power in this matter will save much wear and tear on the lungs. Not every case however, will be so easily disposed of; sedative drugs, even morphine, may not quiet the cough. When it is of a distressing character, it is well treated with Heroin or Codiene; in extreme cases, Morphine and Hydrocyanic Acid may be necessary. Often, an oily spray used thrice daily in the throat will relieve the cough greatly. As a general proposition, it is well not to use Iodid of Potash.

Stomach symptoms are often relieved by checking the cough, the condition being simply the result of "gagging" from paroxysmal coughing. When such is not th ecase (usually there is an hypo-acidity) a simple stomachic tonic, as for instance, Tr. Cinchona Co. or Tr. Gentian Co. with Dil. Hydrocholoric Acid, will relieve the condition. The gastro-intestinal tract may be kept in proper function by diet and occasional mild laxatives. If there be a simple loss of appetite, Tr. Nux Vomica with Tr. Gentian Co. is excellent—Strychnia does not seem to act quite so well. Constipation is best relieved by Castor Oil or administration of Iodoform and Bismuth.

Pleurisy is often relieved by immobilization of the chest by means of some simple binder, or by strapping with adhesive plaster. Mustard or Cantarides plasters at times relieve the condition quickly, and the administration of Aspirin may help considerably in soothing the pain. The Paquelin cau-

tery may by its local and moral effect cure the attack and prevent its return.

Cold baths on arising are advised for those who react well. For the weaker patients, cold chest sponges may be advised, for the stronger—cold showers each morning. This schools the skin against weather changes and colds are less frequent. It seems that patients taking these cold showers enjoy better sleep and have less gastric disturbance than those who do not. Further, their general improvement seems to be more rapid.

As to "catching colds" from sleeping outdoors. If a patient is properly wrapped up or covered he will not take cold from sleeping out. Indeed, patients seem to do better in cold weather. Colds are decidedly more frequent among people living in closed overheated rooms and it is from these that our patients are recruited.

While I am most emphatically of the opinion that Sanatorium treatment is the best way to handle tuberculosis patients, it is not the only way. A number of cases recover their health under home treatment, but the greater number do not. Human nature is frail and prone to do the easiest and most agreeable thing. It is by no means easy to carry out the Sanatorium idea at home. There are too many temptations to relax in the treatment and do a certain thing "just this once." It is these "just onces" that do the damage in tuberculosis and must be guarded against carefully. I have in mind, a patient whom I had forbidden to go chestnutting, but he could not see the harm in going "just once." He went despite orders, and was brought back in the throes of a severe hemorrhage. He died two weeks later of acute miliary tuberculosis. "Just once" was enough to kill him.

For incipient and moderately advanced cases, the Sanatorium method of treating Tuberculosis has proven the best, but far advanced cases should be sent to a hospital especially equipped for treatment of that class of patients. It has been said that Sanatoria have played a minor part in the reduction of the death-rate from Phthisis; "this has been because of the treatment itself." Unfortunately, too much has been expected of Sanatoria. They, nor any other agency, can cure far advanced Tuberculosis. It is in the incipient and moderately advanced cases that Sanatoria do really permanent good. Time and again I have seen patients sent to Sanatoria, far advanced in the disease, who had been advised by their physician, that in a month or twothey would be entirely well. Nothing is so fallacious, nothing is so unfair or so unkind to the patient. No tuberculous case is cured in five weeks, nor yet in four months. An incipient or moderately advanced case may be returned to his family and community a useful member and wage-earner perhaps, in six or eight months after entering the Sanatorium, but the "taking the cure" must not stop then if he would remain in good condition. These patients will have the disease propablby "arrested" or they may be called "Symptomatic" or "Economic" cures, but as far as an actual histologic cure is concerned, that is seldom the case after so short a period. The National Association for the Study and Prevention of Tuberculosis considers as cured, only those cases which show no no symptoms and have signs of a healed lesion in the lung after two years of life under ordinary circumstances.

One of the great difficulties encountered by Sanatoria is that cases are not sent to us early enough. The diagnosis of tuberculosis in its incipiency is necessary if we are to do the best for the patient. This is where you gentlemen in general practice can help much in the crusade. Look for the incipient cases in the homes of your advanced cases; segregate the advanced cases as best you can, send us your incipient cases that they may not become advanced, and let them bring back the Sanatorium idea of out-door living and its precautions against the spreading of the disease.

In closing this paper, I think it might be well to define the classification of patients on discharge from Sanatoria:

Progressive or Unimproved—All essential symptoms and signs unabated or increased.

Improved—Constitutional symptoms lessened or absent, physical signs improved or unchanged, cough with bacilli usually present.

Arrested—Absence of all constitutional symptoms, expectoration with bacilli absent or not, physical signs stationary or retrograding; this for at least three months.

Apparently Cured — All constitutional symptoms and expectoration absent for three months; signs in the lung to be those of a healed lesion.

Cured—Same as apparently cured for two years under ordinary conditions of life.

Open-Air School Established—The first open-air school to be established in the South will be opened in Atlanta next month under the ausices of the Ninth Avenue Presbyterian Church.

ANESTHETICS IN HOSPITALS AND PRIVATE PRACTICE.

Chas. Usher, A.B., M.D., Savannah, Ga.

Dr. Geo. W. Crile, of Cleveland, Ohio, in his paper, "Nitrous Ovide vs. Ether Anesthesia," says, "In the hands of skilled surgeons there is at present only a slight immediate mortality in the good risk patient whatever the operation. This slight risk is made up largely of factors over which we have at present little or no control i. e., embolism-pneumonia-suppression of urine, etc.

In the good risks should we not endeavor to lessen the immediate post-operative discomfort and post-operative neurasthenia and in the bad risks should we not only decline to accept defeat but here search for new methods to reclaim the handicapped patient? I venture to state that foremost among the means of achieving more nearly ideal results in the good risks and reclaiming the handicapped is the anesthetic."

The time and place often determines what anaethetic is the one of choice. An anesthetist cannot always give the safest anesthetic theoretically but has to give the safest one under circumstances. It is generally conceded that nitrous oxide is our safest anesthetic and that chloroform is the most dangerous but under certain conditions these anethestic agents swap places.

In private work an anesthetist is generally limited to chloroform, ether and ethyl chloride, for the reason that they are light and easy to carry around, and also because of the simplicity of administration. Nitrous oxide is seldom used outside of a hospital because the sylniders are heavy and because it is always necessary two have two cylinders since one may become empty at the very time when it was most needed. Oxygen is also seldom used except in hospitals for the same reason—the cylinders are even more troublesome than the nitrous oxide cylinders.

There are a few facts regarding general anesthesia that are well worth considering—both in hospital and in private work.

First—Any anesthetic warmed to blood heat is increased in value as regards life without decreasing its anesthetic effect.

Some six or seven years ago Dr. James T. Gwathmey working in Columbia University, New York City, carried on a considerable number of experiments with cold anesthetics and with the same anesthetics warmed to blood heat. He states in a paper "Warm vs. Cold Anesthesia" that what had been learned in the laboratory he finds now to be true clinically.

Second—Oxygen increases the value of all anesthetics as regards life without decreasing their anesthetic effect. Dr. Gwathmey in summing up his research work along this line states that it not only increses the value of an anesthetic but that post-operative nausea and vomiting is also diminished.

Dr. Chas. K. Teter of Cleveland, Ohio, says that there is a marked difference when oxygen is used and when it is not, both as regards the patient while on the table and afterwards.

As regards morphine it should be used with care—to be given when needed but not as a routine measure— when it is given the anesthetist should maintain a lighter narcosis than otherwise.

There are also a few general principles that should be adhered to in giving an anesthetic.

The heart and lungs should be examined if there be any false teeth they should be removed and during anesthesia and even and level narcosis should be maintained—an irregular anesthetic is always a dangerous one, the head should be turned to one side, the jaw pulled forward in order that the mucus and saliva may collect in the cheek and be mopped out instead of being swallowed or sucked into the lungs. During anestehsia a careful watch should be kept over the circulation, the respiration, the color, the pupils, muscular rigidity and also the reflexes—namely: the corneal, the lid and the swallowing.

It is generally conceded by the leading authorties on anesthetics that nitrous oxide gas is our safest anesthetic and that it should be used in infections and cases of allied nature and in bad risk cases in general.

The death rate under nitrous oxide anesthesia is about one in 800,000—nitrous oxide is generally used for short operations or as a preliminary to ether, but it can be used also for long operations with or without the addition of oxygen provided a certain percentage of air is given to avoid the asphyial complications when nitrous oxide and air are given, from two to five breaths of nitrous oxide to one of air to begin with and increase the air as the anesthetic continues.

Ethyl chloride as a rule is used for short operations or as a preliminary anesthetic; and while not as soft generally speaking as

Read at Meeting of First District Georgia Medical Society, Savannah, Ga., August, 1911.

nitrous oxide is safer than this gas in certain selected cases. For alcoholics, the obese, the robust and the athlete it is better than nitrous oxide gas.

Dr. Edmond G. Bolye in his book "Practical Anaesthetics" says, that Ethyl chloride and ther are frequently of great service in these cases (alcoholics), since the induction period is short and struggling and excitement are avoided.

When Ethyl chloride is used it is perfectly safe and proper to follow with drop ether, but should not however be followed immediately by chloroform for they are both depressents and kill in the same way.

Ether is considered to be our best all round general anesthetic and as a general proposition ether is considered to be five times as safe as chloroform. When ether is used it is well to first induce anesthesia with ethyl chloride or nitrous oxide gas and then continue with ether and during the last part of the operation to chloroform alone. However induce anethesia with ethyl chloride or nitrous oxide and follow with ether for 15 or 20 minutes and then go to chloroform alone or to two parts chloroform and three parts ether—when ethyl cloride or nitrous oxide is used as a preliminary to ether, the amount of ether is reduced about 30 per cent. and the post-operative discomfort and post-operative neurasthenia are greatly reduced.

Choloroform—Over 90 per cent. of the fatalities due to this anesthetic have occured during the first 15 minutes of administration and most of the m in robust subjects without any pathological lesion and possibly requiring only a slight opertion.

When the element of fear is present, chloroform as a preliminary anesthetic is contra-indicated. Dr. Hewett, of London, gives an example of a case where fear or fright of anesthesia was such a dominant factor that instead of using chloroform, water was droped upon the mask and the patient promptly died before a drop of chloroform was given.

Theoretically, however, after the first 15 minutes chloroform is as safe as ether and is used as a routine with many of the leading anesthetists of this country and Europe. When chloroform is used the patient should get 98 per cent. air, for over 2 per cent. chloroform vapor is dangerous to life. When chloroform is given by the drop method not over 30 drops should be given during any one minute.

MINUTES OF MEETING OF COUNCIL

April 20, 1911.

Meeting called to order by Chairman Fitts. A letter was read from Dr. Geo. Brown, asking for reinstatement in the Fulton County Medical Society. Dr. W. S. Goldsmith, Councillor from the 5th District, explained the cause and manner of his expulsion from the Fulton County Medical Society. Dr. Barnett, a Censor of the Fulton County Medical Society, was called before the Council for information relative to the expulsion of Dr. Brown.

Dr. W. W. Pilcher moved that the Secretary wire Dr. Geo. Brown to appear before the Council of the Association. Motion carried.

Moved by Dr. W. W. Pilcher that the by-laws of the Association be so amended as to allow the Secretary to appoint delegates from County Societies when the regularly elected delegates are absent from the meeting. Motion carried.

Dr. N. M. Stowe, of Jesup, Ga., appeared before Council asking to be reinstated in the Wayne County Medical Society. Moved by Dr. Pilcher that the matter be referred to the Councillor of the district wherein Dr. Stowe resided for investigation, and that said Councillor be given power to act. Motion carried.

A committee consisting of Drs. Stovall, Goldsmith and Atkinson were appointed to audit the accounts of the Treasurer.

Upon motion the meeting adjourned.

Minutes of Meeting of Council, April 21, 1911

Meeting called to order by Chairman.

Moved by Dr. Pilcher that the Secretary be paid a salary of $100 per month, and that $50 pe r month be allowed him for extra assistance incident to the work of the publication of the official Journal of the Association. Carried.

Moved that the President of the Association be instructed to appoint a committee of three members of the Council as a Medico-Legal Society, to investigate the question of legal defense, and report at the next annual meeting of the Association. Carried.

Moved by Dr. Goldsmith that the Association direct the Secretary to attend the meetings of the Association of State Secretary's and Medical Editors held at the time and place of meeting of the American Medical Association, and that his expenses be defrayed by the Association. Carried.

The Secretary reported that he had noti-

fied Dr. Geo. Brown by wire to appear before the Council and make his appeal relative to reinstatement in his County Society. Dr. Brown replied asking for an appointment with the Council. This was made by wire for the following day, and Dr. Brown not appearing, it was moved that his appeal for reinstatement in his County society, and thereby his retention as a member in this Association, be denied, and the action of the Fulton County Medical Society be confirmed. Carried.

Upon motion, Council adjourned.

Minutes of Meeting of House of Delegates, April 19, 1911.

Meeting called to order by the President, Dr. E. C. Davis. The committee on Scientific Work reported the program for the coming session, which was adopted as the official order of business.

There being no further business, upon motion, the meeting adjourned.

Minutes of Meeting of House of Delegates, Afternoon Session, April 19, 1911.

Meeting called to order by the President, Dr. E. C. Davis. Dr. T. J. Charlton addressed the house urging the assistance of the Association in securing an amendment to the present medical law pertaining to abortions.

Dr. I. H. Goss spoke on the deficiencies of our present medical laws; particularly as regards the composition of the State Boards of Medical Examiners, and their powers.

Drs. Westmoreland and Pilcher discussed the proposed medical practice act as adopted at the last years meeting of the Association, which law was referred to the Committee on Public Policy and Legislation with instructions to urge its passage.

Moved by Dr. J. G. Dean that a committee of three be appointed by the president to suggest any necessary change in the management and direction of the Association, and report to a succeeding meeting of the House. Carried.

The president appointed on this Committee Drs. J. G. Dean, W. W. Pilcher and W. F. Westmoreland.

Upon motion, the meeting adjourned.

Minutes of House of Delegates, April 20, 1911

Meeting called to Order by the President, Dr. E. C. Davis.

Report of the Council was received and adopted.

Report of the Committee for auditing the books of the Treasurer was received and adopted.

Report of the Committee on Medical Legislation and Public Policy was made by the Chairman, Dr. E. Bates Block. Upon motion the report was received and adopted.

Report of the Committee on Public Policy and Legislation.

Your committee begs leave to make the following report:

There were a large number of bills before the Georgia Legislature of 1910, some of which were passed, and all of these were such as the Association were heartily in favor of. Many bills failed to pass owing to the new rule of the Legislature that all bills presented and not voted on were ended, and had to be reintroduced at the next session as new bills. Some of these were actively opposed by the legislative committee, such as the "Optometry Bill' which was unanimously defeated. Some bills which were heartily indorsed and supported by your committee failed to come to a final vote which to all practical purposes was equivalent to a defeat for the 1910 session of the Legislature. These bills must be reintroduced at the next session of the legislature, if you desire their adoption. Two Medical practice bills were introduced, one by Guyton, and one by Hardmon & Boyd. Neither of these was dopted.

The Committee has not completed its investigation of laws relating to the commitment and care of the insane.

The Committee was appointed too late to effect an introduction of a bill to make it compulsory upon all county and municipal Boards of Health to require the reporting and registration of tuberculosis cases to the State Board of Health, etc.

We regret very much that bill on ophthalmian ecnatorum was not introduced.

Among the unfinished business of your committee is also the formulation of a law governing expert testimony.

The Following Bills Were Not Passed.

An act to establish Boards of Medical Examiners for the State of Georgia, etc., by Hardman and Boyd.

A bill to regulate the itinerant vending of medicine, nostrums and appliances for the treatment of disase, etc., by McElreath.

A bill entitled an act to establish a board of Medical Examiners for the State of Georgia, by Guyton.

A bill to provide against the evils resulting from the traffic in certain narcotic drugs and to regulate the sale thereof, by Hardman.

A bill to amend an act approved August 22, 1907, entitled "an act to provide against the evils resulting from the traffic in certain narcotic drugs," etc., by Alley.

An act to amend section 1496 of the code of 1895, which prescribes the qualifications of applicants for Pharmacist's license, in this State and for other purposes. By Price.

Optometry bill. By Burch.

Bills Passed.

To extend the work of the pure food bureau and chemists department.

To establish a training school for nurses at the State Sanatorium.

To regulate the sanitary conditions of hotels, requiring clean linen to be furnished to transients.

To appropriate $25,000 for 1910 and $35,000 for 1911, to the State Sanatorium for maintenance.

To appropriate $30,000 for the completion of the State Tuberculosis Sanatorium at Alto.

To appropriate $15,000 for a Tuberculosis hospital at the State Sanatorium.

Chairmans Expenses.

Stamps	$22.53	
Printing	3.75	
Reports, Stenographic	15.70	$40.98
Dr. Dean, Traveling and Hotel	12.00	
Dr. Martin, Traveling and Hotel	25.00	
		$77.98

Respectfully submitted,
E. BATES BLOCK, Chairman.
J. G. DEAN,
H. H. MARTIN,
Commitee on Public Policy and Legislation.

Report of the Committee on Necrology was made by the Chairman, Dr. H. M. Fullilove. On motion of Dr. W. F. Westmoreland, the report was amended so as to recommend that hereafter all eulogies of deceased membrs be published in the transactions, but not read in the meeting.

Necrology.

Amidst the rush of our present day civilization, we must pause from time to time, and pay final respect to those, who are one by one, joining the ranks of the "silent majority." During the busy deliberations of each recurring convention, this Association finds it a solemn duty to suspend its business for a brief period, and pay becoming tribute to those follow members, careers are but a memory now—to those lives who have passed from the busy ranks of time to the mute phalanx of eternity. To those departed physicians, whose vigilance and persevering skill, did many times stay the hand of the Grim Reaper, but who themselves must finally surrender to the "inevitable hour."

"Their bones are dust,
Their souls are with the saints we trust"

From the hand of the God of the Nations is their reward; the voice of the Great Physician speaks of plaudit to the Servants, whose fidelity to earthly obligations must certainly assure and enrich their possession of delights eternal.

Were time and space to permit your committee would be glad to prepare a fitting memorial to each departed member.

Those whose memories we would honor on this occasion are:

Abner Wellborn Calhoun, M.D., of Atlanta, Ga., died August 21, 1910. He was one of the best beloved men ever known in our Profession, in fact he was a Southern Gentleman. Loved and respected by every one who knew him, by the Doctors and Patients alike. He was a pioneer in his special line of work and there was never a time when the poor could not receive the same attention without pay that the rich could.

Graduated in Jefferson Medical College, 1869, he was a member of American Medical Association, the Medical Association of Georgia. Professor of Ophthalmology and diseases of ear, nose and throat, in Atlanta College of Physicians nd Surgeons. Attending Surgeon Grady and Wesley Memorial Hospitals and St. Josephs Infirmary, also a Confederate Veteran.

Andrew M. Brown, M.D., died at Jesup, Ga., Nov. 3rd. Aged 42.

Martin M. Cagle, M.D., died in Atlanta, Ga., May 6th.

Alexander G. Carroll, M.D., died in Atlanta, Ga., August 17th. Aged 49.

Ira Ellis DuPree, M.D., died at Lake Saranac, N. Y., August 26th. Aged 56.

George W. Drawdy, M.D., died in Jesup, Ga., Dec. 3rd. Aged 60.

George L. Ezzard, M.D., died in Atlanta, Ga., December 19th.

Lindsey Johnson, M.D., died in Cartersville, Ga., May 11th. Aged 58.

Ernest Robert McGregor, M.D., died in Athens, Ga., December 19th.

Isaac D. Moore, M.D., died at White Plains, Ga., June 16th. Aged 81.

James T. Prevatt, M. D., died at Monticello, Ga., May 27th. Aged 38.

John R. Shannon, M.D., died at Cabaniss, near Juliette, Ga., June 22rd.

Samuel P. Smith, M.D., died in Atlanta, Ga., December 21st. Aged 39.

W. Monroe Smith, M.D., died in Atlanta, Ga., January 25th. Aged 38.

H. M. FULLILOVE, Chairman.
J. L. SELMAN,
C. A. DEXTER,
J. O. ELROD,
R. E. CATO,
Committee.

Report of the Committee on Tuberculosis was Read by the Chairman Dr. R. R. Kime.

To the President and Council.

We your committee on Tuberculosis desire to state that owing to the distance of the members of the commitee from one another and through other circumstances the committe has failed to get a quorum after two or three calls for meeting. Some work has been accomplished through the efforts of the State Federation of Women's Clubs which induced the Governor to issue a Proclamation declaring a health day which was observed at many points throughout the State. The State School Commissioner co-operated and aided the schools in observing the day. So far we have been unable to get any special instructions on Tuberculosis in the Public Schools except an occasional lecture. We find the text-books for instruction ars adopted every five years by the State Board of Education. A new schedule will be adopted in ——

While we are making an effort to introduce instructions on Tuberculosis into the Public Schools your committee feels that other subjects should be included, such as other contagious diseases, Typhoid Fever, Hookworm Disease, Flies as carriers of disease and etc. We have not sufficient available funds to prosecute this work and to secure such printed material as is necessary and the State School Commissioner states he has no funds to get the material in shape. Your committee requests that we be given the privilege to secure if possible the co-operation of the State School Commissioner and State Boards of Health and Education in outlining and securing printed material along the lines suggested above for use and adoption for instruction in the Public Schools of the State.

We feel that this is a work worthy of the support of the Medical Association of Georgia and that your committee should not continue to pay its own expenses for printing and material. We request that the Association appropriate $200 or $300 or as much thereof as may be needed for the prosecution of this work.

R. R. KIME, Chairman.
C. H. RICHARDSON.

The special committee appointed to suggest means for promoting the welfare of the Association reported progress, and was given further time.

Moved by Dr. T. J. McArthur that the privileges of the floor be extended to Dr. A. T. McCormick, of Bowling Green, Kentucky. Carried.

Moved by Dr. T. J. McArthur that the special committee for promoting the welfare of the Association, report in concrete shape the necessary changes in the Constitution and By-Laws to conform with the suggestions made in their official report. Carried.

Dr. W. P. Hardman gave notice of an intention to move an amendment to the Constitution as follows:

To Amend the Constitution.

Sec. 3, Article 9. By striking the words "And no person shall be elected to any such office who is not in attendance on that annual session."

Dr. T. J. McArthur called attention to the fact that no resolution was introduced at the meeting the previous year changing the hour of election and moved the reconsideration of the motion adopting the program as the official order of business. This re-consideration carried, and the hour designated for the election of officers at the previous meetings applies at this time.

Upon motion the meeting adjourned.

Minutes of House of Delegates April, 20, 1911 Second Meeting.

Meeting called to order by the Vice-President, Dr. J. C. Bloomfield.

Minutes of previous meeting read and confirmed.

Dr. J. G. Dean, Chairman of the Special Committee for promoting the welfare of the Association, reported as follows:

We, your Committee selected to inquire into and compare the Constitution and By-Laws of other State Associations, with that of the Medical Association of Georgia, beg to report as follows:

1st. We have, after consideration and comparison, decided to recommend to your

body that the present Constitution of the Medical Association of Georgia remain unchanged.

2nd. That we recommend the adoption by the Medical Association of Georgia of the following changes and amendment to By-Laws, to-wit:

1st: Add to chapter 4, section 4, the following:

He shall be editor of the Journal of the Medical Association of Georgia. He shall employ such assistants as may be ordered by the Council or the House of Delegates. He shall annually make a report of his doings to the House of Delegates.

2nd: That chapter 5, section 5, shall be amended so a sto read as follows:

The Council shall provide for and superintend the publication and distribution of all proceedings, transactions and memoirs of the Association, and shall have authority to appoint such assistants to the editor as it deems necessary. It shall manage and conduct the Journal of the Medical Association of Georgia, which is the organ of the Association, and all money paid into the treasury as dues shall be received as subscriptions to Journal.

All money received by the Council and its agents, resulting from the discharge of the duties assigned to them, must be paid to the Secretary-Treasurer of the Association. As the Finance Committee it shall annually audit the accounts of the Secretary-Treasurer and other agents of this Association, and present a statement of the same in its annual report to the House of Delegates, which report shall also specify the character and cost of all the publications of the Association during the year, and the amount of all other property belonging to the Association under its control, with such suggestions as it may deem necessary. In the event of a vacancy in any office, the Council shall fill the vacancy until the next annual election.

That Sections 6, 7 and 8, be added as follows:

Section 6. He shall furnish a balance sheet at each annual meeting for the past fiscal year to be published in the Journal. This shall consist of an itemized statement of all financial transactions of the past year, all accounts made, money received and from whom, and all moneys disbursed, to whom and for what purpose, with vouchers attached. (A fiscal year includes the period of time between the first day of April and the last of March.)

Section 7. All reports on scientific subjects and all scientific discussions and papers heard before the Association shall be referred to the Journal of the Medical Association of Georgia for publication. The editor, with the consent of the Councillor for the district in which he resides, may curtail or abstract papers or discussions, and the Council may return any paper to its author which it may not consider suitable for publication.

Section 8. All commercial exhibits during the annual sessions shall be within the control and direction of the Council.

That Section 15, Chapter 7, be added as follows:

The Secretary of each county society shall report to the Journal of the Medical Association of Georgia full minutes of each meeting and forward to it all scientific papers and discussions which the Society shall consider worthy of publication.

That Chapter 3, Section 3, be amended to read: "A majority of delegates present shall constitute a quorum."

That Chapter 9, be stricken entirely, and the present Chapter 10 made Chapter 9.

We also recommend the appointment of a committee of three to investigate the advisability of establishing a Medico Legal Department which shall defend our members against unjust malpractice suits.

J. G. DEAN,
W. W. PILCHER,
W. F. WESTMORELAND,
Committee.

Upon motion, the report carried.

Dr. W. W. Pilcher moved that the expenses of Dr. A. T. McCormick, incurred in visiting this meeting be paid from the Association's funds. Carried.

Upon motion, a rising vote of thanks was tendered Dr. McCormick.

Dr. R. C. Daley introduced the following resolution, which upon motion was adopted:

Resolution of The Medical Association of Georgia.

Whereas, the wonderful beauty and unequaled scenery of Tallulah Falls and its immediate vicinity has always constituted one of the chief attractions of this State and of the South, drawing thousands of visitors annually from all sections of the Union, adding to the pleasure and happiness of the citizens of Georgia, and tourist in general, and sugmenting the prosperitv and importance of the Empire State of the South, and,

Whereas, the high altitude and splendid atmosphere of Tallulah Falls coupled with

its mineral waters, its natural charm and beauty, its easy access and accomodations for infants and invalids, makes same perhaps the greatest health resort of the Piedmont section; and,

Whereas, it has been brought to our attention that it is now about to be developed by foreign interest for commercial purposes, and believing that the people of Georgia owe it to themselves and future generations of the Nation to preserve forever this most wonderful work of nature, equal in grandeur and magnitude to the Falls of Niagara, and the Grand Canyon of Colorado, already established through the efforts of the people and the government, as playgrounds of the Nation and,

Whereas, Congress of the United States did at its last session pass a bill known as the "Weeks Bill" looking towards the preservation of the beauty and attractiveness of the Uplands of the Appalachian Mountains, which include "Tallulah Falls," in the counties of Habersham and Rabun, for the creation and pleasure of the people.

We therefore, in the interest of the health and welfare of the people of Georgia, recommend, that the next legislature of our State proceed either through co-operation with the National Governmnt or otherwise, to protect and preserve in its natural state the wonderful scenery at and around Tallulah Falls, and,

We further recommend, that the people of the State of Georgia proceed at once to organize a society or an association for the purpose of preventing the proposed destruction and use of Tallulah Falls for commercial purposes and for the immediate protection and permanent preservation of same for the people of Georgia and the South. Upon motion the meeting adjourned.

Minutes of the Business Session of the Medical Association of Georgia, held at Rome, Ga., April 21, 1911.

Meeting called to order by the President, Dr. E. C. Davis.

Report of the House of Delegates read and received.

The following resolution was read and adopted:

Resolved, that the Medical Association of Georgia believing the greatest asset of the American people to be it's health and the happiness resultant therefrom cordially endorses the principle of Senate Bill No. 1, introduced by Hon. R. M. Owen, Senator from Oklahoma, providing for a department of Health, and that, realizing the financial loss resulting from sickness and deaths in Georgia and our whole country from preventable diseases, we hereby request our Senators and Congressmen to carefully consider this bill, and to give it that active support that its importance demands and that the President and Secretary of this Association send a certified copy over its seal to each of our Senators and Congressmen and to Senator Owen.

Motion by Dr. S. T. Barnett:

I move that we extend to the citizens and the profession of Rome our heartiest thanks for the many courtesies and delightful entertainments that they have given to the Medical Association of Georgia, at this meeting. Carried.

The Association now proceeded to the election of officers as follows:

President: Dr. W. L. Fitts, Carrollton. Term expires 1912.

1st Vice-President: Dr. R. M. Harbin, Rome. Term expires 1912.

2d Vice-President: Dr. T. E. Bradley, Cordele. Term expires 1912.

Councillor 1st District: Dr. J. Lawton Hiers, Savannah. Term expires 1914.

Councilor 2d District: Dr. J. G. Dean, Dawson. Term expires 1914.

Councilor 3rd District: Dr. R. H. Stovall, Vienna. Term expires 1914.

Councilor 4th District: Dr. C. L. Williams, Columbus. Term expires 1914.

Delegates to American Medical Association.

Dr. H. F. Harris, Atlanta; term expires 1912. Alternate: Dr. Dunbar Roy, Atlanta.

Dr. W. H. Doughty, Jr., Augusta; term expires 1913. Alternate, Dr. E. C. Ballinger, Atlanta.

Upon motion the meeting adjourned to meet in Augusta, Ga., the third Wednesday in April, 1912.

The more money The Journal of Medical Association of Georgia makes out of its advertisements the less it costs the State Society to run the paper. This means that every member of the State Society has an interest in the advertising columns. If one [illegible]n advertises and another does not, patronize the one that does. It is money in **your** pocket.

THE JOURNAL OF THE MEDICAL ASSOCIATION OF GEORGIA

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Advertising forms go to press eight days in advance of the date of issue. In sending in copy time must be allowed for setting up advertisements and for sending proofs, No proprietary medicines can be advertised until approved by the Council. Advertising rates will be sent on request.

CONTRIBUTIONS.

EXCLUSIVE PUBLICATION: Articles are accepted for publication on condition that they are contributed solely to this journal.

CONTRIBUTIONS TYPEWRITTEN: Authors should have their contributions typewritten—**double-space and with ample margins**—before submitting them. The expense is small to the author—the satisfaction is great to the editor and printer. We can not promise to return unused manuscript, but try to do so in every instance. Manuscript should not be rolled or folded.

ILLUSTRATIONS: Half-tones and zinc etchings will be furnished by THE JOURNAL when satisfactory photographs or drawings are supplied by the author. Each illustration, table, etc., should bear the author's name on the back. Photographs should be clear and distinct; drawings should be made in black ink on white paper. While we cannot guarantee to return used photographes and drawings, we use our best endeavors to do so after the article is published, if the word "return" is written on the back of each.

ANONYMOUS CONTRIBUTIONS, whether for publication, for information, or in the way of criticism are consigned to the wastebasket unread.

NEWS: Our readers are requested to send us items of news of a medical nature, also **marked** copies of local newspapers containing matters of interest to physicians. We shall be glad to know the name of the sender in every instance.

NOTICE TO MEMBERS.

Our editorial pages in this issue are devoted to the publication of a list of the members of the Medical Association of Georgia who have paid their dues and subscriptions in advance.

This is published primarily for the benefit of the secretaries of county societies, so as to enable them to collect dues from those members who have not paid;but also we earnestly ask that you scan the list and see if there are physicians in your county who are eligible for membership and whose names do not appear in this list. If such is the case, make it your duty to call on such physicians and urge them to become members. Likewise see if your own name appears in this list, and if not make it a point to immediately send your dues to your local secretary, so that the books of the Association may be balanced as rapidly as possible.

We know the tendency to procrastination among busy doctors, so do this at once, instead of laying the Journal aside with the promise to do it in the future. Delays are dangerous.

NOTICE TO LOCAL OFFICERS.

We wish to call the attention of the officers of the District Medical Soiceties to the recent action of Council regarding admission of non members; also to the suggestions for increasing interest in County Societies published in this issue.

Secretaries are earnestly requested to notify the Secretary of the State Association of any errors or omissions in the list of members who have paid their dues in advance so that same be corrected immediately.

We also desire to call attention to the list of District and County Societies published in the inside of front cover. Secretaries of District and County Societies who have not made their reports are earnestly requested to do so at once, so as to complete this list.

RECENT ACTION OF COUNCIL.

At the last meeting of the Council it was agreed that any physician not a member, who is eligible for membership in the Association, (as a result of being a member of a county society, or where no county society exists, of a district society), might upon payment of one dollar, be registered as a member until the next annual meeting, and receive the Journal of the Association until that time.

Simply pay your County Society dues, not including the State Dues of $3.00, and send in your card properly signed, and you will be registered.

Many County Societies have no dues, and in all the dues are merely nominal; being only about $1.00 per year.

Can you afford not to become a member of your State Association under such circumstances?

The value and importance of membership in the Medical Association of Georgia must appeal to every thoughtful physician.

Why?

Not merely because of its scientific value:

Not merely because it promotes social and fraternal relations:

Not merely because of its strength as an organization for advancing and conserving the corporate interest of all its members.

But:—

Because of its economic value to you.

Because of what you get,

Because you cannot afford to remain without it.

Consider this Proposition:

Membership in the Medical Association of Georgia immediately confers upon you, **without extra cost,** the following:

1. You receive the State Journal of Medicine monthly. It keeps you in touch with the latest scientific thought and progress in all departmens of medicine.

2. You receive the directory containing the names, etc., of all members.

3. You are eligible to membership in the American Medical Association, our great National Society.

How?

Join your County Society at once.

Membership in your County Society confers upon you membership in the State and District Associations.

All of this at the cost of approximately $1.00 until the next annual meeting.

Subscription cards have been sent to a number of eligible non-members. Have your local secretary sign, and forward to the State Secretary.

SUGGESTIONS FOR INCREASING INTEREST IN COUNTY SOCIETIES.

1st. Improved programs. Interest in the meeting depends largely on the attractiveness of the program.

2d. Take up post-graduate course as recommended by American Medical Association. This systematizes the programs.

3d. Confer with State Board of Health for at least one meeting a year on public health matters. Co-operation with the Health Department is essential to the welfare of the community.

4th. Have at least one reader a year from a distance. Confer with Committee on Scientific Work of State Society if necessary. It will be glad to suggest names of those willing to render such service.

5th. Arrange for one or more clinical meeting a year. Select subject and request all who have proper cases to bring them before the Society; then have a discussion on the same, always with the understanding that discussion of the case shall not be held in the presence of the patient; otherwise, frequently patients cannot be shown for obvious reasons.

6th. Arrange for demonstrations by bacteriologists and pathologists with specimens, lantern slides, etc.

7th. Arrange for social part of meeting. Some light refreshments at the close of the meeting are an adjunct to fraternal intercourse.

8th. See that meetings are held often enough to keep up interest. Once or twice a year is not enough. Invite every member of the profession in the county to attend at least one meeting a year, not necessarily inviting them all to the same meeting. In counties where men do not show a willingness to write papers either designate writers for different meetings or see that outsiders are invited—in other words, **see that the meetings are made interesting.**

9th. Arrange the time of meeting to accommodate the largest number of members. Where men come from long distances, an evening session is obviously the most inconvenient. An afternoon session will often appeal to a larger number of men when it permits them to reach their homes at a seasonable hour.

10tth. Select as officers men who are willing to work. Keep good men in office. Do not promote those who have shown they will not attend to the duties assigned them. Efficiency is the only criterion of leadership. "No physician should accept office unless he is prepared to give the position the attention that it deserves and unless he is interested in the work."

11th. In small societies do not unduly multiply offices—the Secretary's and Treasurer's duties can be best done by one man. Always supply officers with clerical help if work is onerous. Detailed drugery work should not be asked of men serving for others without compensation.

12th. Make the dues large enough to warrant conducting the Society work in a proper manner. Those who object to the amount of their dues usually do so because they are not receiving full value for them. Give back a dollar in value for every dollar paid in and complaints will be few.

13th. Provide a Committee on Entertainment who shall welcome new or prospective members or guests at meetings. The officers of the Society may be active or ex officio members of such committee. Newly registered physicians should be visited by such committee or written to and asked to join the County Society.

14th. See that the meetings, programs and proceedings are published regularly and promptly in the State Journal.

MEMBERS OF THE

Medical Association of Georgia

Who have paid their dues and subscription in advance.

BUTTS COUNTY.

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J. E. Johnson.....Elberton
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A. H. Lindorme, Treasurer.....Atlanta.

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Robin Adair.....Atlanta
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E. G. Ballenger.....Atlanta
J. B. Baird, Sr.....Atlanta
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C. F. Benson.....Atlanta
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H. I. Battey.....Atlanta
L. M. Chrichton.....Atlanta
J. L. Campbell.....Atlanta

W. E. Campbell.....Atlanta
W. L. Champion.....Atlanta
L. B. Clark.....Atlanta
T. J. Collier.....Atlanta
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W. A. Crown.....Atlanta
L. W. Chields.....Atlanta
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T. P. Calhoun.....Atlanta
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R. R. Kime.....Atlanta
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W. E. Taylor.....Atlanta
J. S. Todd.....Atlanta
Theo. Toepel.....Atlanta
G. E. Trimble.....Atlanta
J. D. Thomson.....Atlanta
W. A. Upchurch.....Atlanta
S. A. Visanska.....Atlanta
G. K. Varden.....Atlanta
Veer F. E. Vander.....Atlanta
W. S. Westmoreland.....Atlanta
J. C. White.....Atlanta
J. C. Weaver.....Atlanta
Bernard Wolff.....Atlanta
C. P. Ward.....Atlanta
A. E. Wheeler.....Atlanta
W. T. Asher.....Atlanta
J. O. Oglesby.....Atlanta
L. P. Stephens.....Atlanta
E. C. Thrash.....Atlanta
A. G. DeLoach.....Atlanta

FRANKLIN COUNTY.

F. G. Moss, President.....Royston.
W. W. Cornogg, Vice-President.....Lavonia.
B. T. Smith, Sec.-Treas.....Carnesville.
G. W. Whiteside, Delegate.....Lavonia.

F. G. Moss.....Royston
W. W. Cornogg.....Lavonia
H. L. McCrary.....Royston
J. H. Terrell.....Cannon
G. F. Bush.....Carnesville
J. M. Freeman.....Lavonia
A. W. Mortin.....Carnesville
G. W. Whiteside.....Lavonia
G. M. Parker.....Carnesville
J. R. Sewell.....Ashland
J. R. Hall.....Carnesville
B. T. Smith.....Carnesville

GREENE COUNTY.

E. C. Adams, Sec.-Treas.....Greensboro.

J. C. Asbury.....Greensboro
W. E. Adams.....Grensboro
J. H. Gheesling.....Greensboro
E. G. Adams.....Greensboro
H. Clay Foster.....Union Point

GORDON COUNTY.

W. B. Floyd, President.....Plainville.
W. R. Barnett, Vice-President.....Resaca.
E. O. Shellhorse, Sec.-Treas.....Calhoun.
C. F. McLain, Delegate.....Calhoun.

H. L. Erwin.....Dalton
J. M. Erwin.....Calhoun
C. F. McLain.....Calhoun
E. O. Shellhorse.....Calhoun
W. G. Bannister.....Sugarvalley
D. J. Borders.....Calhoun, R. F. D. 2
B. W. Fite.....Resaca
L. W. Vanzantt.....Resaca
W. B. Floyd.....Plainville
W. R. Barnett.....Resaca
G. W. Mills.....Calhoun
W. E. Wood.....Dalton
R. E. Cato.....Americus

GEORGIA MEDICAL SOCIETY.

Geo. R. White, President.....Savannah.
V. H. Bassett, Vice-President.....Savannah.
J. M. Sigman, Sec.-Treas.....Savannah.
T. J. Charlton and J. W. Daniel, Delegates.....Savannah.

H. P. Adams.....Savannah
W. H. Adams.....Savannah
A. L. R. Avant.....Savannah
J. O. Baker.....Savannah
Craig Barrow.....Savannah
C. P. Brannen.....Savannah
G. O. Brinkley.....Savannah
W. F. Brunner.....Savannah
J. N. Carter.....Savannah
T. J. Charlton.....Savannah
J. F. Chisholm.....Savannah
T. S. Clay.....Savannah
M. X. Corbin.....Savannah
E. R. Corson.....Savannah
W. B. Crawford.....Savannah
J. A. Crowther.....Savannah
W. R. Dancy.....Savannah
J. W. Daniel.....Savannah
M. F. Dunn.....Savannah
J. V. Farmer.....Savannah
B. H. Gibson.....Savannah
G. L. Harman.....Savannah
R. V. Harris.....Savannah
J. S. Howkins.....Savannah
G. W. Heriot.....Savannah
H. W. Hesse.....Savannah
J. L. Hiers.....Savannah
J. L. Jackson.....Savannah
G. H. Johnson.....Savannah
Jabez Jones.....Savannah
Ralston Lattimore.....Savannah
Lawrence Lee.....Savannah
H. H. McGee.....Savannah
H. H. Martin.....Savannah
A. A. Morrison.....Savannah
G. W. Norton.....Savannah
W. A. Norton.....Savannah
B. P. Oliveros.....Savannah
W. B. O'Rear.....Savannah
W. W. Owens.....Savannah
S. L. Phillips.....Savannah
B. S. Purse.....Savannah
R. S. Reid.....Savannah
J. T. Rogers.....Savannah
J. M. Sigman.....Savannah
Chas. Silverman.....Savannah
A. B. Simmons.....Savannah
H. B. Stanley.....Savannah
W. L. Stothart.....Savannah
M. R. Thomas.....Savannah
R. M. Thomson.....Savannah
J. K. Train.....Savannah
F. Wahl.....Savannah
T. P. Waring.....Savannah
J. Weischelbaum.....Savannah
G. R. White.....Savannah
W. S. Wilson.....Savannah
A. W. Winders.....Savannah
J. A. Usher.....Savannah
Chas. Usher.....Savannah
Antonio Waring.....Savannah
A. B. Cleborne.....Savannah
R. V. Martin.....Savannah
D. E. Dudley.....Savannah
V. H. Bassett.....Savannah
St. Julian R. de Caradeuc.....Savannah
D. B. Edwards.....Savannah
H. Y. Righton.....Savannah
J. E. Morrison.....Savannah
C. M. Rakestraw.....Savannah
P. S. Clark.....Darien
E. W. Griffin.....Springfield
L. H. Lanier.....Marlow
W. W. Smith.....Clio
J. O. Strickland.....Pembroke
W. C. Myers.....Meldrem
C. H. Meldrim.....Belfast

HABERSHAM COUNTY.

P. Y. Duckett, President.....Cornelia.
J. B. Jackson, Vice-President.....Clarksville.
R. B. Lamb, Sec.-Treas.....Demorest.

J. K. Burns.....Clarksville
P. Y. Duckett.....Cornelia
O. H. Lamb.....Demorest
J. B. Jackson.....Clarksville
M. B. Ketron.....Cornelia
R. B. Lamb.....Demorest
H. L. Earl.....Clarksville
T. V. Chandler.....Baldwin
J. P. Phillips, Honorary Member.....Clarksville
W. C. Bryant.....Baldwin

HALL COUNTY.

J. B. Randolph, President.....Gainsville.
J. H. McClure, Vice-President.....Gainsville.
A. D. White, Sec.-Treas.....Gainsville.
Wylie Puillian, Delegate.....Bellton.

B. W. Lockhart.....Lula
W. R. Barnwell.....Oakwood
L. R. Bryson.....Gainsville
H. L. Rudolph.....Gainsville
J. B. Rudolph.....Gainsville
E. T. Gibbs.....Gainsville
J. H. Downey.....Gainsville
A. D. White.....New Holland
J. D. Maudlin.....New Holland
J. H. McClure.....Gainsville
P. E. B. Robertson.....Gainsville
T. C. Gower.....Gillsville
J. C. Gower.....Gainesville
J. J. Bridge.....Gainsville
Giles Hathcock.....Bellton
W. H. Quilliam.....Bellton
J. A. Kitchens.....Murrayville
T. W. Quilliam.....Gainsville
J. E. Whelchel.....Gillsville
W. C. Kennedy.....Talmo

IRWIN COUNTY.

L. S. Osborne, ... Fitzgerald
Aubrey Harper ..... Wray

JACKSON COUNTY.

W. B. Hardeman, President ..... Commerce.
J. A. Bryan, Vice-President .... Pendergrass.
J. C. Bennett, Sec.-Treas ..... Jefferson.
L. G. Hardman, Delegate ..... Jefferson.

W. B. Hardman ..... Commerce
J. A. Bryan ..... Pendergrass
H. C. Strickland ..... Athens, R. F. D.
L. C. Allen ..... Hoschton
C. O. Brock ..... Jefferson
H. P. Quilliam ..... Winder
M. F. Nelms ..... Commerce
O. E. Shankle ..... Commerce
L. J. Sharp ..... Commerce
F. M. Hubbard ..... Commerce
J. C. Bennett ..... Jefferson
V. H. Bennett ..... Jefferson
S. J. Smith ..... Jefferson
J. G. Elder ..... Jefferson
E. M. McDonald ..... Jefferson
J. B. Pendergrass ..... Jefferson
L. G. Hardman ..... Commerce
L. Landers ..... Commerce
L. N. Osborne ..... Maysville
S. T. Ross ..... Winder
C. B. Almond ..... Winder

JASPER COUNTY.

W. M. Bullard, President ..... Monticello.
R. F. Cary, Vice-President ..... Monticello.
J. V. Davis, Sec.-Treas ..... Monticello.
C. L. Ridley, Delegate ..... Hillsboro.

W. M. Bullard ..... Monticello
J. H. Bullard ..... Matchen
C. L. Ridley ..... Hillsboro
F. S. Belcher ..... Monticello
L. M. Ellis ..... Monticello
R. F. Cary ..... Monticello
J V. Davis ..... Monticello

JEFFERSON COUNTY.

J. W. Pilcher, President ..... Stellaville.
C. H. Raley, Vice-President ..... Wrens.
Geo. L. Carpenter, Sec.-Treas ..... Wrens.

J. W. Pilcher ..... Stellaville
C. H. Raley ..... Wrens
G. L. Carpenter ..... Wrens
L. P. Farmer ..... Spread
Pierce Hubert ..... Louisville
S. T. R. Revell ..... Louisville
J. T. O'Neal ..... Spread
J. B. Barwick ..... Blythe
C. W. Churchill ..... Wrens
Q. A. Mulkey ..... Vidette

JENKINS COUNTY.

L. J. Belt ..... Millen
Cleveland Thompson ..... Millen

LAURENS COUNTY.

Frank Bright, President ..... Dublin.
J. J. Barton, Vice-President ..... Dublin.
L. W. Wiggins, Sec.-Treas ..... Dexter.
E. New, Delegate ..... Dublin.

L. W. Wiggins ..... Dexter
E. New ..... Dublin
Sidney Walker ..... Dublin
Frank Bright ..... Dublin
H. T. Hodges ..... Dublin
J. L. Weddington ..... Dublin
W. C. Sessions ..... Brewton
J. M. Page ..... Dublin
W. R. Brigham ..... Dublin
C. A. Hodges ..... Dublin
J. J. Barton ..... Dublin
J. H. Duggan ..... Irwinton, R. F. D.
R. J. Chappel ..... Dudley
J. E. New ..... Dexter
T. H. Hall, Honorary Member ..... Dublin
J. L. Thomas, Honorary Member ..... Dublin
G. F. Green, Honorary Member ..... Dublin

LOWNDES COUNTY.

F. H. Thomas, President ..... Valdosta.
T. M. Talbot, Vice-President ..... Valdosta.
J. M. Smith, Sec.-Treas ..... Valdosta.
A. Griffin, Delegate ..... Valdosta.

A. G. Little ..... Valdosta
A. Griffin ..... Valdosta
F. H. Thomas ..... Valdosta
T. M. Talbot ..... Valdosta
J. A. Thomas ..... Valdosta
P. C. Quarterman ..... Valdosta
J. C. Wilson ..... Valdosta
George Lang ..... Valdosta
E. P. Quillian ..... Valdosta, R. F. D.
J. M. Smith ..... Valdosta
S. T. Harris ..... Valdosta
F. F. M'Neal ..... Hahira
G. O. Allen ..... Fargo
T. E. Pennington ..... Naylor
D. W. Freeman ..... Valdosta
E. J. Smith ..... Hahira

MERIWETHER COUNTY.

E. B. Terrell, President ..... Greenville.
J. W. Pinkston, Vice-President .... Greenville.
P. W. Fitts, Sec.-Treas ..... Greenville.
R. B. Gilbert, Delegate ..... Greenville.

N. L. Grant ..... Stinson
J. W. Pinkston ..... Greenville
R. B. Gilbert ..... Greenville
P. W. Fitts ..... Greenville
E. B. Terrell ..... Greenville
F. P. Moorman ..... Greenville

MUSCOGEE COUNTY.

H. S. Monroe, President ..... Columbus.
G. F. Chambers, Vice-President .... Columbus.
G. S. Murray, Sec.-Treas ..... Columbus.
Martin Crook and W. L. Cooke, Delegates ..... Columbus.

W. L. Bullard ..... Columbus
J. R. Youmans ..... Columbus
W. L. DesPortes ..... Columbus
Martin Crook ..... Columbus
J. M. Crook ..... Columbus
J. I. Darby ..... Columbus
W. L. Cooke ..... Columbus
C. A. Dexter ..... Columbus
W. T. Gautier ..... Columbus
J. H. McDuffie ..... Columbus
H. S. Monroe ..... Columbus
T. E. Mitchell ..... Columbus

C. L. Williams.....Columbus
R. P. Glenn.....Columbus
J. T. Moncrieff.....Columbus
B. W. Allen.....Columbus
G. S. Murray.....Columbus
J. C. Wooldridge.....Columbus
S. E. Young.....Midland
J. S. Jacoby.....Columbus
J. H. Johnson.....Columbus
B. B. Jameson.....Columbus
E. H. Sims.....Columbus

MADISON COUNTY.

W. D. Gholston.....Danielsville
R. J. Westbrook.....Commerce
G. W. Westbrook.....Commerce

MONROE COUNTY.

R. C. Goolsby, President.....Forsyth.
J. F. Lancaster, Vice-President.....Forsyth.
J. O. Elrod, Sec.-Treas.....Forsyth.

J. O. Elrod.....Forsyth
R. C. Goolsby.....Forsyth
J. F. Lancaster.....Forsyth
G. L. Alexander.....Forsyth
C. C. Collins, Honorary Member.....Forsyth

MACON COUNTY.

Chas. A. Greer, Sec.-Treas.....Oglethorpe.
Chas. A. Greer.....Oglethorpe
C. H. Richardson.....Montezuma

McDUFFIE COUNTY.

S. Gibson, President.....Thomson.
A. J. Mathews, Vice-President.....Thomson.
B. F. Riley, Sec.-Treas.....Thomson.
Z. M. Story, Delegate.....Winfield.

S. Gibson.....Thomson
A. J. Mathews.....Thomson
B. F. Riley, Jr.....Thomson
Z. M. Story.....Winfield

NEWTON COUNTY.

W. D. Travis, President.....Covington.
J. T. Gibson, Vice-President.....Porterdale.
O. L. Holmes, Sec.-Treas.....Covington.
R. L. Hollis, Delegate.....Hayston.

W. D. Travis.....Covington
S. W. Everett.....Almon
O. L. Holmes.....Covington
J. H. Randell.....Porterdale
N. Z. Anderson.....Covington
P. Wilson, Jr.....Newton
R. L. Hollis.....Hayston
B. H. H. Ward.....Oxford
W. H. Hope.....Covington
J. T. Gibson.....Porterdale
J. C. Smith.....Mansfield

OCONEE COUNTY.

J. T. Elder, Pres.....Farmington, R. F. D.
E. H. Kennimer, Vice-President.....Bishop.
Wm. M. White, Sec.-Treas.....Watkinsville.
S. A. Elder and J. W. Hinton, Delegates.....High Shoals.

E. H. Kenimer.....Bishop
J. T. Elder.....Farmington, R. F. D.
W. M. White.....Watkinsville
S. A. Elder.....High Shoals

OCMULGEE MEDICAL ASSOCIATION.

J. D. Herrman, President.....Eastman.
J. J. Stone, Vice-President.....Hawkinsville.
J. C. Wall, Sec.-Treas.....Eastman.
W. A. Mathews, Delegate.....Hawkinsville.

O. F. Collum.....Chauncey
J. D. Herrman.....Eastman
A. L. Wilkins.....Eastman
J. B. Clark.....Eastman
J. C. Wall.....Eastman
J. A. Burch.....Eastman
E. L. Smith.....Plainfield
J. W. Polhill.....Hawkinsville
W. A. Mathews.....Hawkinsville
R. G. Stone.....Hawkinsville
J. J. Stone.....Hawkinsville
E. C. Brown.....Hawkinsville
B. M. Kennon.....McRae
R. L. Whipple.....Cochran
R. J. Morgan.....Cochran
T. D. Walker, Sr.....Cochran
C. E. Taylor.....Cochran
W. F. Massey.....Chester
W. E. Miller.....Eastman
T. D. Walker, Jr.....Cochran
J. L. Matthews.....Hawkinsville
H. S. Moloy.....Milan
W. H. Born.....McRae

PUTNAM COUNTY.

V. H. Talliaferro, President.....Eatonton.
E. Y. Walker, Vice-President.....Willard.
S. A. Clark, Sec.-Treas.....Eatonton.

S. A. Clark.....Eatonton
W. B. Moore.....Eatonton
D. B. Nisbet.....Eatonton
V. H. Talliaferro.....Eatonton
D. L. Thomas.....Eatonton
E. Y. Walker.....Willard
J. D. Weaver.....Eatonton

PIKE COUNTY.

J. M. Anderson, President.....Barnesville.
W. H. Aycock, Vice-President.....Molina.
M. M. Head, Sec.-Treas.....Zebulon.
R. A. Mallory, Delegate.....Concord.

M. M. Head.....Zebulon
J. C. Beauchamp.....Williamson
A. H. Hackaby.....Milner
W. P. Allen.....Molina
W. H. Aycock.....Molina
J. R. Graves.....Zebulon
W. L. Beauchamp.....Williamson
S. Rumble.....
C. H. Willis.....Barnesville
R. A. Mallory.....Concord
J. B. Howard.....Griffin

PICKENS COUNTY.

W. B. Tate.....Tate

POLK COUNTY.

H. M. Hall, President.....Cedartown.
W. A. Chapman, Vice-President..Cedartown.

W. W. Tison, Sec.-Treas.....Cedartown.
R. N. Spinks, Delegate.....Cedartown.

C. V. Wood.....Cedartown
J. J. Cooper.....Cedartown
C. W. Peek.....Cedartown, R. F. D.
J. A. Liddell.....Cedartown
H. M. Hall.....Cedartown
J. C. Trentham.....Cedartown, R. F. D.
S. L. Whiteley.....Cedartown
W. A. Chapman.....Cedartown
R. N. Spinks.....Cedartown
W. W. Tison.....Cedartown
W. O. Hitchcock.....Dallas
J. E. Pennington.....Esom

RANDOLPH COUNTY.

F. D. Patterson, President.....Cuthbert.
E. C. McCurdy, Vice-President....Shellman.
F. G. Barfield, Sec.-Treas.....Cuthbert.
F. D. Patterson, Delegate.....Cuthbert.

T. H. Andrews.....Cuthbert
W. W. Binion.....Benevolence
O. F. Weathers.....Shellman

RICHMOND COUNTY.

C. W. Crane, President.....Augusta.
Geo. A. Traylor, Vice-President....Augusta.
Jno. C. Wright, Sec.-Treas.....Augusta.
Littleton and Houston, Delegates..Augusta.

J. E. Allen.....Augusta
A. A. Davidson.....Augusta
A. J. Deas.....Augusta
W. H. Doughty.....Augusta
W. H. Harrison.....Augusta
W. C. Kellogg.....Augusta
A. J. Kilpatrick.....Augusta
J. R. Littleton.....Augusta
W. C. Lyle.....Augusta
K. W. Milligan.....Augusta
C. J. Montgomery.....Augusta
N. M. Moore.....Augusta
W. A. Mulherin.....Augusta
T. E. Oertel.....Augusta
G. A. Traylor.....Augusta
J. C. Wright.....Augusta
T. R. Wright.....Augusta
J. A. Johnston.....Augusta
P. P. Comey.....Augusta
M. S. Levy.....Augusta
W. H. Goodrich.....Augusta
C. W. Crane.....Augusta
T. D. Coleman.....Augusta
H. W. Shaw.....Augusta
W. F. Roseboro.....Augusta
H. M. Michel.....Augusta
J. R. Bell.....Blythe
W. D. Jennings.....Augusta
C. I. Bryans.....Augusta
W. W. Battey.....Augusta
W. R. Houston.....Augusta
R. J. Wilcox.....Augusta
Chas. Patterson.....Augusta
G. T. Bernard.....Augusta
C. A. Blanchard.....Augusta

STEWART COUNTY.

J. M. Kenyon, President.....Richland.
R. L. Grier, Vice-President.....Lumpkin.
Milton Walton, Sec.-Treas.....Lumpkin.
T. F. Abercrombie, Delegate.....Lumpkin.

T. F. Abercrombie.....Lumpkin
J. O. Baldwin.....Omaha
A. G. Fort.....Atlanta
R. L. Grier.....Lumpkin
J. M. Kenyon.....Richland
J. F. Lunsford.....Preston
G. G. Lunsford.....Weston
W. W. Peek.....Louvale
C. E. Pickett.....Richland
M. Walton.....Lumpkin
J. S. Wimberly.....Lumpkin, R. F. D. 4
A. R. Wright.....Lumpkin

SOUTH GEORGIA MEDICAL ASSOCIATION.

A. R. Heyward, President.....Warwick.
J. S. McKenzie, Vice-President.....Cordele.
T. E. Bradley, Sec.-Treas.....Cordele.
T. J. McArthur, Delegate.....Cordele.

L. O. Wooten.....Unadilla
R. H. Stovall.....Vienna
A. R. Heyward.....Warwick
F. M. Bruce.....Pineview
W. E. Edwards.....Cordele
B. Dnaiel.....Cordele
M. R. Smith.....Cordele
J. T. Gammage.....Pineview
A. J. Welchel.....Cordele
S. F. Williams.....Cordele
T. E. Bradley.....Cordele
F. E. Williams.....Vienna
J. N. Dorminy.....Seville
T. J. McArthur.....Cordele
V. O. Harvard.....Arabi
J. S. McKenzie.....Cordele

STEPHENS COUNTY.

W. L. McBath, President.....Avalon.
J. H. Terrell, Vice-President.....Toccoa.
C. L. Ayers, Sec.-Treas.....Toccoa.
John Edge, Delegate.....Toccoa.

Jeff Davis.....Toccoa
John Edge.....Toccoa
John Terrell.....Toccoa
J. E. D. Isbell.....Toccoa
C. L. Ayers.....Toccoa
W. L. McBath.....Avalon
W. H. Parker.....Mize

SPAULDING COUNTY.

C. L. Tucker, President.....Griffin.
Webb Conn, Vice-President.....Pomona.
J. M. Thomas, Sec.-Treas.....Griffin.
M. F. Carson, Delegate.....Griffin.

G. T. Johnson.....Griffin
Webb Conn.....Pomona
T. J. Phillips.....Griffin
J. L. Moore.....Griffin
W. M. Byne.....Griffin
J. M. Thomas.....Griffin
C. L. Tucker.....Griffin
W. H. Austin.....Griffin
J. T. Nunnally.....Griffin
M. F. Carson.....Griffin

TALLIAFERRO COUNTY.

J. A. Rhodes.....Crawfordville
L. R. Brown.....Sharon

TERRELL COUNTY.

J. G. Dean.....Dawson

TURNER COUNTY.

W. L. Story, President.....Ashburn.
T. H. Thrasher, Vice-President....Ashburn.
W. J. Turner, Sec.-Treas.....Ashburn.
W. W. Rutland, Delegate.....Ashburn.

W. L. Story.....Ashburn
W. J. Turner.....Ashburn
G. R. Luke.....Ashburn
W. J. Dickson.....Rebecca
J. H. Baxton.....Ashburn

THOMAS COUNTY.

Harry Ainsworth, President....Thomasville.
J. N. Islar, Vice-President.....Meigs.
A. D. Little, Sec.-Treas.....Thomasville.
A. P. Taylor and W. W. Jarrell, Delegates .....Thomasville.

A. P. Taylor.....Thomasville
H. A. Vann.....Boston
D. Q. Dallas.....Pavo
S. E. Sanchez.....Borwick
W. W. Jarrell.....Thomasville
A. D. Little.....Thomasville
J. N. Isler.....Meigs
Harry Ainsworth .....Thomasville
C. H. Ferguson.....Thomasville
J. L. Roberts.....Pavo

TROUP COUNTY.

H. W. Terrell, President.....LaGrange.
J. M. Poer, Vice-President.....West Point.
C. A. Peacock, Sec.-Treas.....LaGrange.
D. E. Morgan, Delegate.....LaGrange.

J. M. Poor.....West Point
Hugh McCulloh .....West Point
J. N. Horsley, Jr.....West Point
J. N. Horsley, Sr.....West Point
C. O. Williams.....West Point
R. O'Neal .....West Point
H. R. Slack.....LaGrange
D. E. Morgan.....LaGrange
W. E. Morgan.....LaGrange
F. M. Ridley, Sr.....LaGrange
F. M. Ridley, Jr.....LaGrange
W. R. McCall.....LaGrange
W. H. Terrell.....LaGrange
J. E. Lane.....LaGrange
C. A. Peacock.....LaGrange
B. H. Brock.....Hogansville
R. H. Jenkins.....Hogansville

TOOMBS COUNTY.

W. W. Odom, President.....Lyons.
E. P. Bomar, Vice-President.....Lyons.
I. E. Aaron, Sec.-Treas.....Lyons.
V. L. Darby.....Vidalia
T. C. Thompson.....Vidalia
G. T. Grey.....Lyons
W. W. Odom.....Lyons
I. E. Aaron.....Lyons
E. P. Bomar.....Lyons
M. L. Currie.....Vidalia

TATNALL COUNTY.

J. W. Daniel, President.....Claxton.
B. E. Daniel, Sec.-Treas.....Belleville.

J. W. Daniel.....Claxton
B. E. Daniel.....Belleville
O. L. Alexander.....Reidsville
S. A. DeLoach.....Glennville
M. D. Hughes.....Glennville
S. T. Smith.....Glennville
S. T. Ellis.....Hagan
B. E. Miller.....Claxton

TRI COUNTY.

H. L. Carroll, President.....Jakin.
W. C. Howard, Vice-President.....Elmodel.
C. K. Sharp, Sec.-Treas.....Arlington.
W. O. Howard, Delegate.....Elmodel.

W. O. Howard.....Elmodel
H. L. Carroll.....Babcock
W. E. Saunders.....Arlington
C. K. Sharp.....Arlington
J. H. Hand.....Blakely
P. H. Keaton.....Kestler
W. B. Sandifer.....Blakely
J. H. Crozier.....Cedar Springs
W. W. Calhoun.....Bluffton
R. P. Struchcomb.....Lucile
J. S. Beard.....Edison
J. L. Cheshire.....Kestler
C. O. Tye.....Edison
C. J. Jenkins.....Edison
P. E. Griffin.....Edison
W. C. Hays.....Colquitt
J. P. Cook.....Colquitt
E. C. Smith.....Jakin
W. J. Jennings.....Blakley
C. R. Barksdale.....Blakley
O. B. Bush.....Colquitt
B. P. Short.....Newton

UPSON COUNTY.

A. H. Black.....Thomaston

WAYNE COUNTY.

J. G. Tuten, President.....Jesup.
A. C. Colson, Vice-President.....Jesup.
E. C. Crummey, Sec.-Treas.....Jesup.
J. G. Tuten, Delegate.....Jesup.

J. G. Tuten.....Jesup
D. L. Moore.....Jesup
A. C. Colson.....Jesup
E. C. Crummey.....Jesup
J. F. Burchett.....Jesup
J. T. Colvin.....Odum
J. A. Moore.....Jesup

WILKES COUNTY.

T. J. Wills, President.....Washington.
J. W. Ramsey, Vice-President....Washington.
H. M. Sale, Sec.-Treas.....Tignell, R. F. D.
H. M. Sale, Delegate.....Tignell, R. F. D.

H. M. Sale.....Tignall, R. F. D. 1
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A SIMPLE TECHNIQUE IN GYNECOLOGIC AND OBSTETRIC PERINEAL REPAIR INCOMPLETE AND COMPLETE

R. R. Kime, M.D., Atlanta.

Several factors have contributed to the evolution of the technique in perineal and pelvic floor repair. The suture material, the anatomical structure and function of the pelvic floor, and the manner of denudation have been the principal factors in this process of evolution.

Dr. J. B. Mettauer, oof Virginia, was the first to use metallic leaden sutures in this operation in 1830''—(Emmet)—Sims was the first to use silver wire while Emmet was the first to demonstrate the true anatomical repair of the perineum, the principles of which influence the work of the present day. He evolved the denudation process and laid the foundation for the method of approximating the pelvic fascia, levatorani, as well as the perineum proper.

The complicated technique, use of variously curved scissors for denudation, method of denudation, use of silver wire made it difficult for the average surgeon of that day to understand and execute.

Jenks of Chicago, 1879, was the first to elevate the vaginal flap in one piece by submucous dissection with scissors but removed flap for suturing parts. Tait was the first to do a flap splitting operation without removal of tissue, but did a superficial operation with the stitches tied externally. Now various operations or methods are used, varying with the ideas of the individual operators.

The suture played an important part in the evolution of the present technique of perineal or pelvic floor repair. At first silk sutures were used, then waxed silk, later metallic sutures after which silk worm gut was followed by the absorbable suture of the present day. Safe, efficient, absorbable cat-gut has marked an era in aseptic surgery without which the technique of many surgical operations would be incomplete and especially perineorraphy. The buried suture is an essential feature in a simple technique in this operation, so also is the elevation of the flap or mucous membrane without removal in preference to denudation with removal. By the buried suture the principles of the Emmet operation can be carried out equally as well if not better than in the denuding process and by far simpler and quicker technique. I have been advocating this method of perineal repair for the last fifteen or

twenty years. The longer I practice it the more I am convinced of its utility, efficiency, and simplicity. If the flap is properly elevated, either or both vaginal sulci, anterior fibres of levator ani, pelvic fascia, spincter ani, when lacerated, and the perineal structures proper can be approximated forming a good firm pelvic floor and as large perineal body as desired without destruction of tissue which is a factor of importance in many cases. In cases with marked scar tissue, especially if tender and sensitive, it should be removed, also in fleshy women with large patulous vaginae the excess of tissue may be removed. In most all cases it is best to conserve the vaginal tissue especially if patient is likely to have more children; because as a rule the vaginal mucous membrane and perineum are taxed to their utmost by passage of child's head and shoulders. The flap protects the sutures, conveys uterine and vaginal discharge, lessens chances of infection of sutures and prevents formation of pockets in vaginal sulci for collection and burrowing of infectious material. Buried sutures lessens chances of infection, lessens pain and irritation of parts, lessens cutting of skin tissue, lessens collection of lint from dressings, an infection from rectum, do not require removal and when infection does occur, give better results because superficial stitches can be removed without complete separation of parts, but my experience is that infection is far less likely to occur.

In Obstretric work the same principles apply except that the parts are already denuded ready for suturing. The buried interrupted No. 2 plain cat-gut is best and, if the lacerated tissues are properly approximated the mucous falls together and the wound can be closed up by a continuous over and over No. 2 cat-gut suture which may be introduced deeper and left double if for any reason it is feared absorption will take place too rapidly. All that is needed for the operation is a needle-holder or artery forceps, scissors, No. 2 plain cat-gut, and a small full curved needle with large eye. By this simple method the parts can be approximated nearer in their normal relation, and the sutures that approximate deeper structures are not exposed to carry infection, irritate parts, catch and hold debris; they cut tissues very little if not tied too tight and a point of considerable interest to the patient is that they do not have to be removed later.

In past years in doing plastic work on perineum, I have had some unpleasant experiences with No. 2 chromic cat-gut buried in perineum, remaining too long, causing irritation and infection so that now I use almost entirely No. 2 plain soaked in alcohol or alcohol and iodine except it be in the sphincter ani muscle (No. 1 chromic) or in cases of marked tension on parts then a No. 2 chromic may be introduced deeply into the tissues and tied externally to relieve the tension so that it can be removed later if necessary. Technique—Commence incision at A Fig. 1—extend to B then to C—Best done with scissors, catching up flap at A with forceps, dissecting it up sufficiently to catch hold of it with the fingers, the flap being covered with gauze, then push tissues away from under surface with fingers of right hand covered with gauze, cutting any bands of tissue as needed to expose lacerated muscles, fascia and tissue; carry dissection up into either vaginal sulcus, one or both as needed. Blunt, pointed, dissecting scissors pushed up under the flap, then spread apart, is a very efficient method of elevating the flap in some cases, combining both frequently simplifies the work.

Fig. 2 shows the flap elevated, even up into left sulcus with sutures E. E. E. introduced in left sulcus ready to tie, also sutures F. F. F. F. in anterior part of the levator ani, pelvic fascia and lower strata of the perineal tissues introduced ready to tie. Fig. 3 shows sutures in left sulcus, also those in pelvic floor, and perineum tied, with

Montgomery stitch G. G. introduced if so desired.

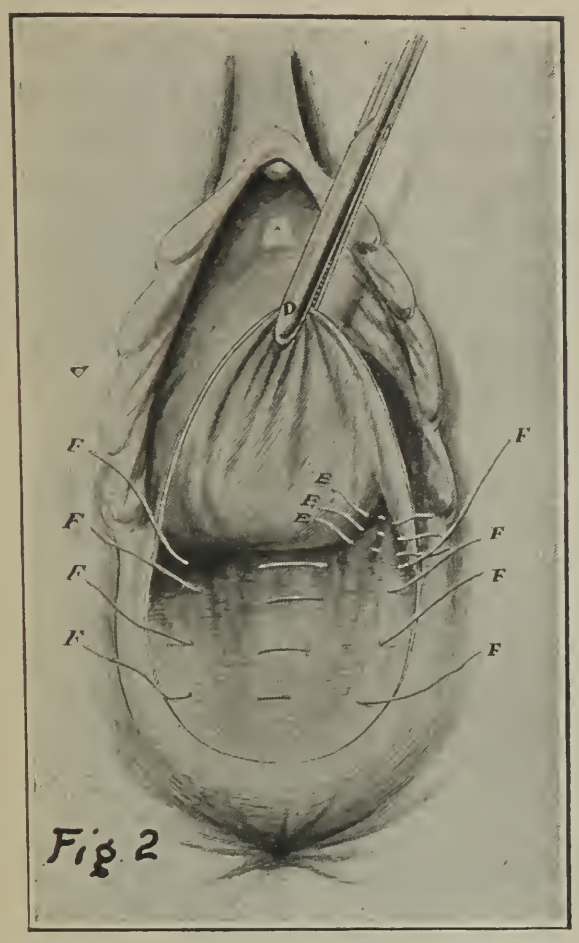
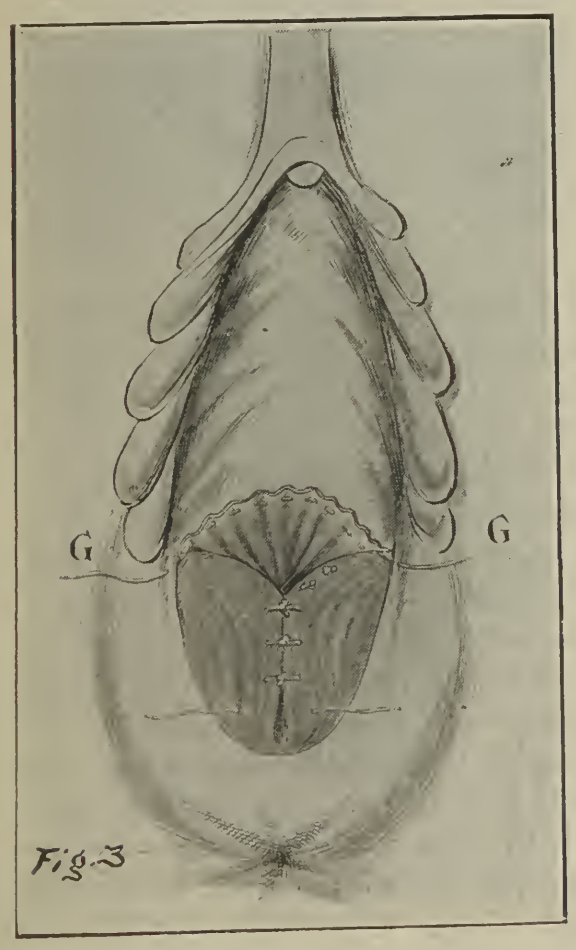
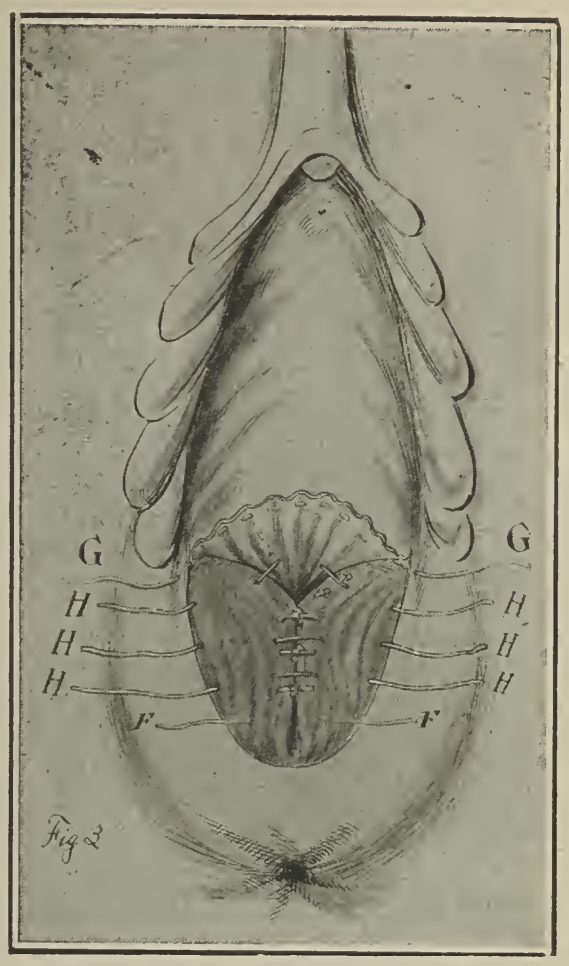
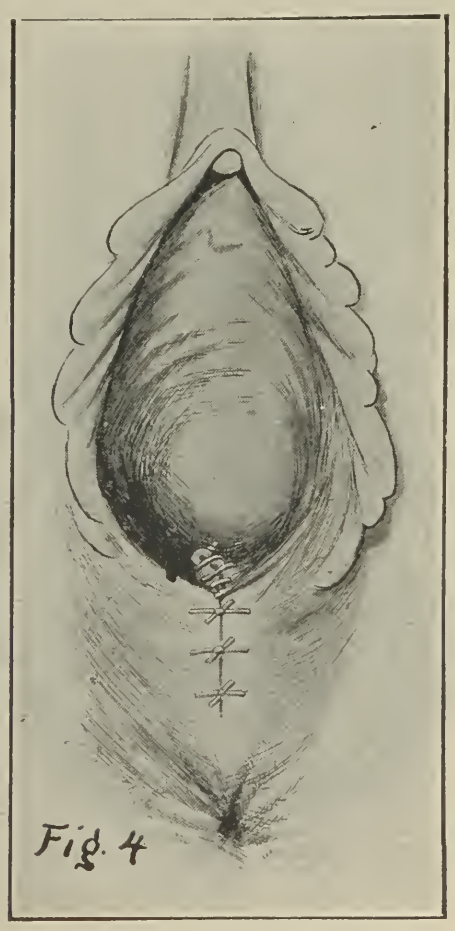


Fig. 3 illustrates the same with additional sutures H. H. H. H. introduced ready to tie, which completes the approximation of pel-



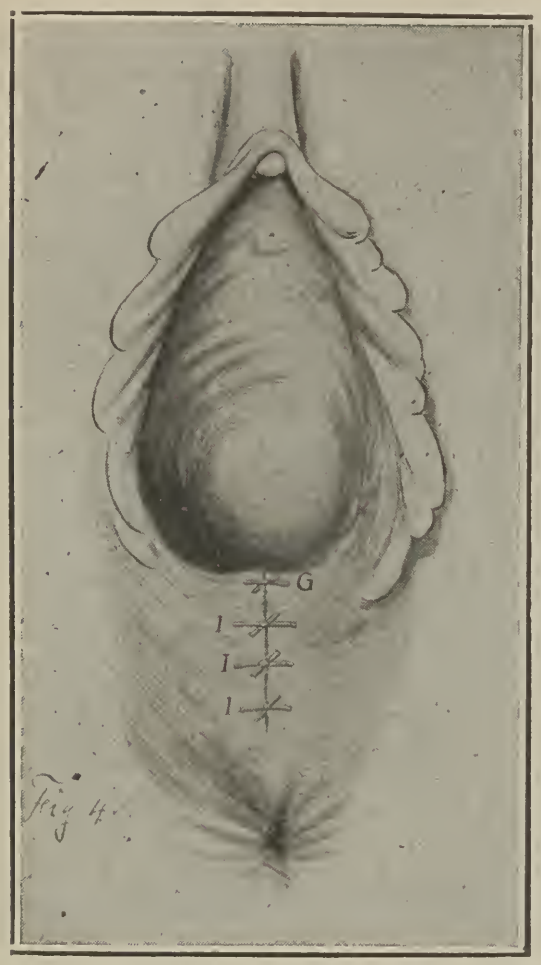
vic floor and perineum, ready for superficial sutures in mucous flap and skin. Fig. 4 shows interrupted sutures in skin with an over and over suture in raw edge of remains of vaginal flap, these being the only sutures exposed since all the others are buried sutures. Fig. 4' illustrates interrupted sutures I. I. I. in skin surface of perineum, also Montgomery suture G approximting raw



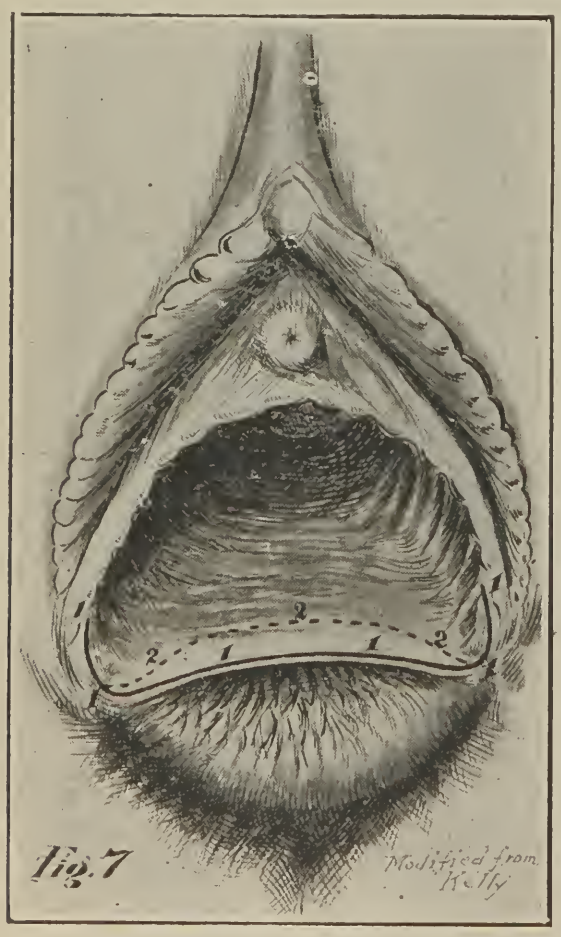


edge of remains of vaginal mucous flap, but not shown with enough puckering of the tissues in the cut.

Technique—Complete lacerations involving recto-vaginal septum. Fig. 7—modified



from Kelly, illustrates tissues on the stretch, line 1. 1. 1. 1. represent incision around edge of laceration, outlining the vaginal flap to



be elevated also exposing ends of spincter ani muscle leaving raw edge along the same line along the rectal wall, which is brought together by an over and over No. 2 plain cat-gut, completing the rectal wall with only one knot of cat-gut suture in the rectum in place of several knots where interrupted sutures are used. In Fig. 7—2. 2. 2. dotted line represents a curved incision for making a rectal flap to turn down to complete rectal wall in place of suturing. This rectal flap can be used to advantage in some cases where laceration does not extend high up in rectum and where there is plenty of tissue; this method with slight variations is used by different operators.

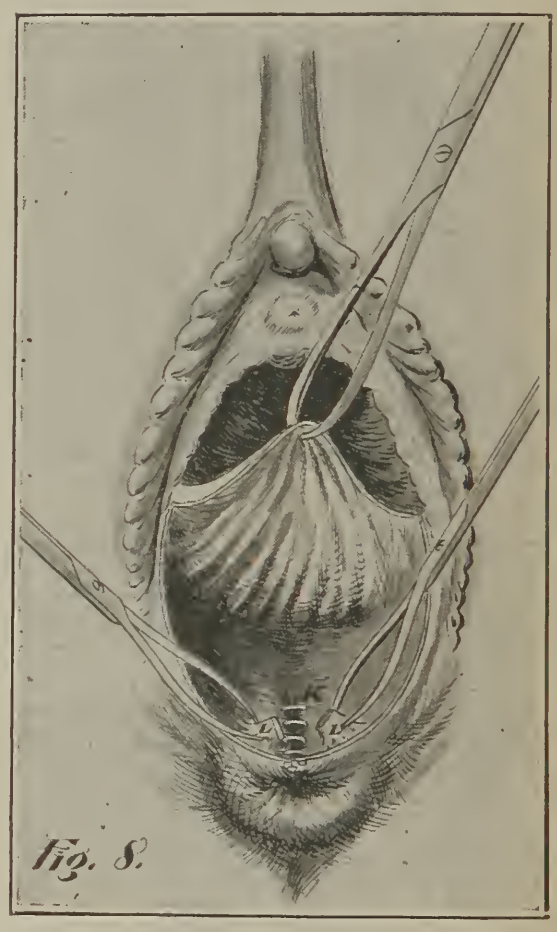


Fig. 8 shows rectal wall closed with No. 2 plain cat-gut K, also ends of spincter ani muscles L. L. exposed ready to be sutured.

Figure 9 shows a second over and over suture M, introduced and ready to tie and bring down a second line of suture over the first suture K in rectal wall, passing just under spincter ani and stopping just beneath skin surface. N. N. indicate separate suture (No. 1 chromic or No. 2 plain) bringing ends of spincter ani together, while P. P. is a reinforcing suture including other tissues and deeper bite into the spincter ani muscles and when tied relieves the tension on the end sutures and prevents them from cutting out so often. The remainder of the operation is then completed the same as in incomplete lacerations previously described in Figures 1 to 6 inclusive.

Remarks:—This method of operating does not require an expert anatomist for hair

splitting dissections of the various individual muscles of the perineum. It is the easiest and simplest way of exposing the original lacerations and facilitates bringing the parts together in their normal relation without destruction of tissue. When two or three denuding operations have been done with

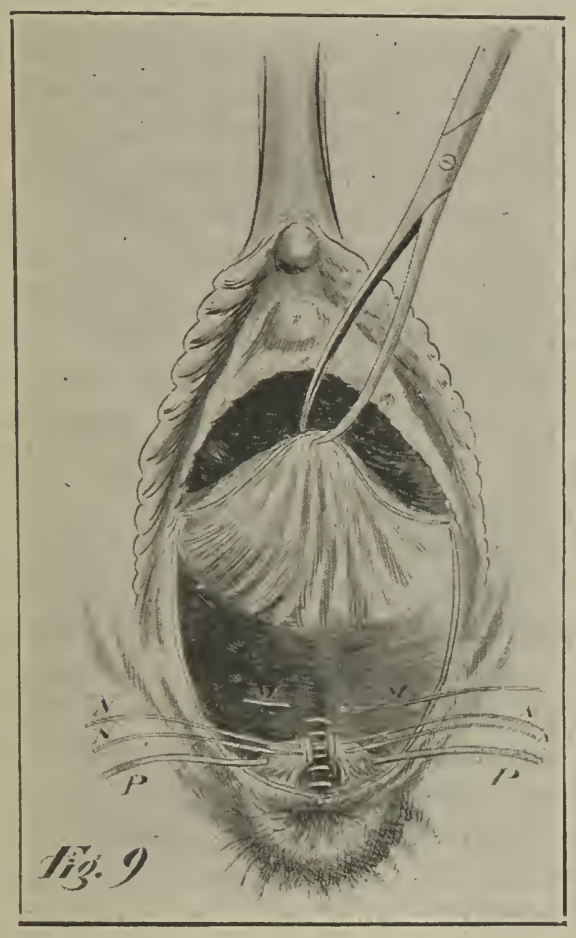


Fig. 9

failure, as I have seen them, the loss of tissue becomes a very important factor, especially in the complete lacerations. The majority of the sutures are buried and protected by the flap and not nearly so likely to become infected, neither are they on so much tension and so likely to cut through the tissues. If the superficial sutures should become infected, they can be cut and even removed and the deeper sutures will hold and get union. The mucous vaginal flap in some cases may seem in the way when the operation is completed, but this is really a benefit in all cases except with the real fleshy patients with large relaxed vaginas. The redundant tissue soon disappears after the tissues are absorbed, leaving a resistent, dilatable vagina and vulva, a factor of considerable importance in future labors. I am more and more convinced each year of the practical utility of this simple technique in the repair of the pelvic floor and perineum in both the complete and incomplete lacerations. I have tried the denuding process even after seeing the master Emmet himself do the work which has been the standard for years.

Discussion on Dr. Kime's Paper.

Dr. W. W. Battey, Jr., Augusta: The paper just read I think is a very able one. In all operations for the repair of the perineum, no matter whether it is Emmett's, Kelley's, Kime's, or others, we must have in view one or two facts, support the pelvic floor and support the rectocele. The muscles that have been torn should be properly repaired and the rectocele should be supported. All the operations for the repair of the lacerated perineum aim at the same object. In case of a complete tear of the perineum the method employed by Dr. J. Riddle Goffe, of New York, is one of the best we can use. The repair can be accomplished in about fifteen (15) minutes and the technique is very simple- The post-operative care of these patients I think is of as much importance as the operation itself.

Dr. J. R. B. Branch, Macon: With regard to the post-operative treatment in our perineal work, these patients are left, as a rule, after the work is finished, in the hands of a nurse, and our ultimate success really remains in her hands. One of the great questions that arise is, shall the patient be catheterised or not; on this there is a decided difference of opinion. If the nurse recognizes her sphere, carefully cleans the perineum, dusts it over with aristol, and then catheterises the patient, the sutures may hold well. It is better, however, in many instances not to institute catheterization until we are sure that the sutures will hold. Failures in these operations very often follow because of lack of care following the operation.

Before operation the bowels should be thoroughly cleaned out and then a very low diet given; the diet after the operation should be kept at the minimum; then the best results are obtained by tying up the bowels. The patient should have nothing by way of the mouth except water for three days following the operation; then she may be given about two drachms of albumin for eight days. These patients do not need much nourishment. About the eighth, ninth or tenth day following the operation the bowels should be moved by means of an olive oil suppository. This should be used through the retention catheter which has already been introduced into the bowel, sutured there, to permit of the escape of gas. Two hundred (200) c. c. of olive oil should be introduced through this retention catheter; the patient should expell the catheter with the olive oil.

Dr. R. R. Kime, Atlanta, (closing the dis-

cussion): I wish to emphasize the importance of using the buried suture in these cases. I have never been able to get successful results in these cases unless I used the buried suture. The suture used should be one that is absorbable. If the knot of the suture is left in the rectum there are chances of infection from the rectum and this can be avoided by the method I propose.

TREATMENT OF PELLAGRA*

H. F. Harris, M.D., Secretary State Board of Health, Atlanta.

But little of value could be said concerning the treatment of pellagra if by the term we included only those melancholy and hopeless examples of this affection that are observed toward its termination. The subject is one that is as yet so new in this country that few if any recognize the milder types of the malady, only such cases being diagnosticated as present in a more or less pronounced fashion gastro-intestinal, skin, and mental manifestations—for which, unfortunately, but little can be done. While it was, of course, inevitable that the classical examples of the disease should have been first recognized, the value of the discovery would have been but slight were it not the case that this information at once pointed out the most likely methods of prevention, and at the same time incited us to search in every possible direction for the incipient forms of the affection. Fortunately the great Italian, French and Spanish students of pellagra long ago recognized that it was possible in many instances from certain symptoms pointed out by them to diagnosticate the disease before the eruption, and I have satisfied myself that these symptoms may be observed many years before the outbreak of the classical symptoms. As nothing has been written in this country on this phase of the subject, and for the further reason that good results from treatment can only be expected at this stage, a short discussion as to the character of these manifestations and their relationship to treatment would seem desirable.

Accepting the theory—upon which practically all real students of the affection have agreed—that pellagra is the result of chronic poisoning from the consumption in one form or another of spoiled maize, there is no room to doubt that the result is produced not by direct infection with animal or vegetable parasites, but as a consequence of the corn product containing within itself some toxic principle, probably the result of previous activities of one or more low vegetable forms. In other words the patient is poisoned much in the same way as he would be from the constant consumption of many chemical substances which are well known to be capable of setting up pathological conditions in the body—the character and extent of which would necessarily vary with the amount taken. Accepting the foregoing as being true it becomes evident that we must necessarily have every grade of intensity of poisoning from that which is so mild that no outward manifestatons can be observed to others in whch the full and most powerful affects of poison are produced. We may then speak of the milder morbid conditions that result from the consumption of bad corn as being varying stages of degrees of **maize-poisoning,** reserving the name **pellagra** for only those extreme examples of the resulting pathological states that characterize the terminal periods of the disease. It is, of course, true that these stages cannot be categorically designated, since they insensibly merge one into the other, but fortunately they may be roughly divided in such a way as to serve every requirement from the clinical standpoint.

First Stage—There seems good reason for the belief that the vast majority of those who suffer from maize-poisoning never pass beyond this stage, and that those who suffer in this way probably constitute a not inconsiderable proportion of the entire population of the Southern States. The clinical manifestations are of such trifling character that they rarely cause the sufferer to demand the services of a medical man. On the other hand the patient cannot be regarded as being entirely well. During the winter his health is, as a rule, excellent, but when the heat of the Southern spring begins to cause fermentation in the corn products that he daily consumes he complains more or less of malaise, loss of appetite, and not infrequently of a feeling of despondency, all of which vary from day to day. He not uncommonly suffers from what is called "biliousness," has a furred tongue, and occasionally headaches. As the spring advances into summer he not infrequently complains of digestive disturbances, such as a heavy feeling in the region of the stomach after meals, the formation of gas, and very

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commonly heart-burn. A curious burning sensation in the stomach, often extending up into the esophagus, is often complained of, the patient is apt to be dizzy, and has a feeling as though a lump were in the throat. Flurries of diarrhoea are now and then encountered. The papillae toward the end of the tongue are sometimes enlarged and quite red. During the summer the patient, as a rule, usually loses more flesh than is commonly the case. The condition just described is apt to continue with varying degrees of intensity throughout the warm months, the patient again returning to a normal condition as soon as cold weather begins. Not infrequently these symptoms do not become prominent until the summer is far advanced and may be even first noticed in the autumn.

It is of course obvious that no especial treatment is indicated in a condition such as has just been described. It is true that more or less benefit may result from purgatives, particularly calomel, but relief of this kind would necessarily be only of a temporary character. Should the patient go to the mountains or to the sea-shore—particularly where corn products do not play an important part in the dietary—recovery is usually rapid, and if the sufferer does not return home before cold weather begins he remains well until the following spring. If he be directed to leave off all foods prepared from maize a similar result follows, as the writer can testify from numerous experiences. Drugs appear to exert no pronounced influence in permanently relieving the symptoms described, though patients frequently say that they are somewhat benefitted by tonics, particularly those containing arsenic.

Second Stage:—The patient has usually suffered for a number of years in the way just described before he begins to complain of the symptoms that characterize a more advanced stage of the disease. Some spring, summer or fall, after beginning in the usual way, the poisoning manifests itself more strongly than was the case before. The patient becomes very weak, particularly in the lower limbs, and has an indisposition to exertions of all kinds; this is the most common and most pronounced of all the symptoms of moderate maize-poisoning. Along with it we have, however, marked mental depression, and oftentimes slight soreness of the tongue, which comes and goes. The dyspeptic symptoms become now quite distressing, and periods of constipation, followed by diarrhea, are frequently complained of. The patient loses flesh along with his appetite, and often complains of curious abnormal sensations in the lower extremities, particularly a burning in the feet and legs. Hemorrhagic spots of irregular shape commonly appear on the backs of the hands and on the sides of the neck, to be followed by gradual absorption of effused blood—frequently leaving a slight discoloration of the skin which may be persistent for many weeks and even months. A close inspection will show in such patients what are clearly trophic changes in the skin of the hands and face, it becoming finely wrinkled, and having a parchment-like appearance. Pains in the abdomen sometimes occur. This degree of the poisoning may continue for long periods of time without the patient ever exhibiting the classical symptoms of pellagra; sooner or later, however, in a certain proportion of cases, the affection becomes grave, and we find the patient gradually sinking into the more generally recognized later stages of the disease. In some instances where these symptoms persist for years, the sufferer finally acquires a persistent diarrhoea, which hangs on in many instances for years, and which always, so far as the writer has been able to observe, leads ultimately to an unfavorable termination.

The treatment of this stage of maize-poisoning consists above all things in at once prohibiting every food or drink that contain corn-products, and a change to a cooler climate is of the greatest benefit. If the latter be impossible, the sufferer should be confined strictly to the bed, and should remain out of doors both day and night. Forced feeding should be practiced, the patient being given raw eggs and milk to the point of toleration. On an average of six raw eggs and three quarts of milk should be allowed in the beginning and both should be increased until at least a gallon of milk and ten or twelve eggs are consumed in twenty-four hours. As the patient improves, solid food may be allowed, but this should be gradually introduced into the dietary, and given with the greatest caution, as digestive disturbances frequently follow the resumption of ordinary food. It is generally thought that arsenic is of benefit in maize-poisoning, and it certainly can do no harm to administer it in cases of this kind, but the writer is constrained to say that he has never observed any marked benefit from its use. Where the patient is treated in the manner described for six or eight weeks recovery is

the rule, and if he afterwards abstains from all maize-products a permanent cure results. It will be observed that the treatment advocated is in all essential particulars identical with that of tuberculosis, and the writer would call attention to the fact that it has been paricularly successful in his hands, and, so far as he is aware, has not been heretofore suggested.

Third State (Pellagra):—This stage of maize-poisoning is that which is called pellagra, and as its symptomatology is well known the treatment will be alone considered.

So far as I have been able to observe from a considerable experience no drug may be said to exert any decided influence over this degree of maize-poisoning. Arsenic, as advocated by the Italians, occasionally seems to be of some slight value, but that it exerts any decided curative effects appears to be more than problematical. The cases in which it seems to be of benefit are those that have a natural tendency to recover, as is usual in all those instances of the disease occurring in young and vigorous individuals —especially when they present the classical symptoms in their mildest form. In the severe examples of the malady, particularly when accompanied by nervous symptoms, I have never been able to convince myself that arsenic or any other medicine was of the slightest avail. When it is possible all patients presenting the typical symptoms of pellagra should take an out-of-door rest cure, if possible in the mountains, and should be fed in the same way as was directed in connection with the milder forms of maize-poisoning. In such instances, if the disease be not too far advanced and the patient not too old, recovery may be hoped for when this treatment is followed, but there must always remain an unfortunate and not inconsiderable proportion of cases for which nothing whatever can be done.

Not only is the medical treatment of the disease as a whole decidedly unsatisfactory, but the various complications encountered during its course are but little amendable to drugs.

In the majority of instances the dermatitis requires no particular treatment, as after perisisting for a few weeks the inflammation gradually subsides without the formation of sores. In other cases blebs form, followed by more or less superficial ulceration, when this occurs some protective application, such as oxide of zinc ointment or two per cent. boric acid in cold cream, favors the early return to a normal condition, but in spite of every remedial measure lesions of this kind sometimes persist for months.

Nitrate of silver solutions or argyrol are considered by some as being of value in the ulcerative processes that occur on the tongue, in the mouth, and on other mucous surfaces; although it does not seem to me that the influence exerted by these drugs is of a marked character, it is quite possible that recovery is hastened in some cases when they are employed. Antiseptic alkaline washes are soothing, but cannot be looked upon as curative in conditions of this kind. Like the skin lesions, those occurring on the mucous membranes have a natural tendency ultimately to get well should the patient survive.

Diarrhea, which is one of the most important distressing symptoms of pellagra shows but little disposition to be influenced by medication. Rest in bed and a liquid diet are of more value than drugs in its treatment, but we occasionally encounter cases in which artificial digestants seem to be of more or less value. As all pellagrous patients suffer from a diminution in the pepsin and hydrochloric acid normally present in the stomach, or even complete absence of these substances, a mixture containing them administered after eating something promptly checks the diarrhea; however, the mouth and esophagus are often so sensitive that acids cannot be taken without great suffering, and this treatment cannot, therefore, be used, and other artificial digestants may be employed, and are occassionally followed by good results.

The mental symptoms of pellagra often foil every endeavor of the physician to successfully combat them, and not infrequently persist permanently after all other active evidences of the disease have subsided. Patients exhibiting mental disturbances are always the ones in which the prognosis is worst, and furnish a very high percentage of those that rapidly succumb. As soon as patients develop trouble of this kind they should at once be placed in an asylum, as it is only possible in institutions of this kind for them to recive the proper treatment. The physician should be especially warned against the use of narcotic drugs when nervous symptoms occur, as patients are apt under such circumstances to sink into a state of low delirium from which they sometimes never recover; even small doses of drugs of this class will often completely upset the mentality of pellagrous individuals.

It should never be forgotten that the prin-

cipal lesions of advanced cases of maize-poisoning are to be looked for in the central nervous system, where most extensive destruction of the brain and cord substance occurs—a destruction which is often so extensive that it is inconceivable that any remedial agent could in the slightest way affect the course of the malady.

SAMBON'S NEW THEORY OF PELLAGRA AND ITS APPLICATION TO CONDITIONS IN GEORGIA.

Stewart R. Roberts, S.M., M. D., Associate Professor of Medicine in The Atlanta College of Physicians and Surgeons.

I wish to call your attention tonight to a new theory of pellagra, and especially to apply this theory to conditions in Georgia, and to show that the same conditions exist in Georgia to produce the disease that exist in Italy, the wholesale home of the disease. This theory was formulated by Dr. Louis W. Sambon, Lecturer on Tropical Medicine at the Liverpool School of Tropical Medicine, and detailed for three months in 1910, in Italy, where he studied pellagra. Dr. Sambon is a research student of recognized ability; in 1903 he formulated the tsetse fly theory of sleeping sickness, which has proven true. His Progress Report on pellagra and the result of his investigations appeared in The London Journal of Tropical Medicine during September, October and November, 1910, and I shall draw freely on these accurate and interesting articles.

First, I wish to define pellagra according to our present knowledge. Pellagra is a non-contagious, non-inheritable disease, of insidious course, characterized by a peculiar, periodic eruption, and a series of symptoms involving the nervous and digestive systems, periodic and progressive. This definition is based entirely on the clinical history of the disease, and does not take into account the cause of the environment in which the disease develops. We can now proceed more fully to the consideration of this new theory of cause and origin.

There is one primary condition on which all theories are based, and one easy way which we test freely and accurately every theory. It is stated in this simply way: Every theory to be correct must be in accord with the facts. On this simple proposition all theories either must stand or fall, and by this same simple rule we may test this new theory of pellagra.

Sambon Opens with Five Propositions

1. Pellagra is not due to the eating of maize, either sound or deteriorated, as hitherto almost universally believed. In support of this statement are the following facts:

(a) Maize was grown in Italy from one and a half to two centuries before pellagra appeared in that country, and it is therefore, impossible to connect the introduction of the new cereal with the first appearance of the disease.

(b) Pellagra occurs in people who do not eat maize or corn products. Casana stated at a meeting of the Catalonian Academy of Medicine that in Spain the greater prevalence of Pellagra existed in those provinces where the cultivation and use of corn is unknown. Children contract the disease in Italy as early as the third month, provided they are brought outdoors and exposed to the bites of the Simulium fly. A bastard child was born in an Italian jail, and at five months was adopted by peasants living along a running stream. It developed pellagra in two weeks after exposure to the bite of this fly, and it had never eaten any corn products of any kind.

(c) The absolute failure of preventive measures on the part of the Italian Government; e. g., the inspection of maize and its products; abolition of the late varieties of maize; notification of cases; and establishment of pellagrosarios for the treatment of the disease.

2. Pellagra has a striking, peculiar, and well defined topographical distribution. In Northern and Central Italy the pellagra foci are found in the narrower valleys of the country districts, where the streams are infested by the Simulium fly. Wherever pellagra is found, these flies are found in the districts bordering the streams.

3. These endemic foci, or stations, have remained exactly the same for at least a century. The disease presents the same relative proportions in all the affected districts, and towns are generally exempt.

4. The pellagra stations are closely associated with streams of running water. Pellagra is a rural disease, and the greater number of cases occur in the country districts, and especially among people living along running streams. The greater liability of field laborers is explained by the fact that

they are more exposed to the infective agent than others. Nearly all the pellagrins in Italy say that in the Spring they are greatly tormented by the bites of the sand flies. These flies are more active in the early morning and late evening.

5. That a blood-sucking fly, of the genus Simulium, is, in all probability, the agent by which pellagra is conveyed. It is a periodic disease, the seasons of incidence being Spring and Fall, and the Simulium fly has these same periods of activity.

This is a condensed statement of the Sambon report as to conditions in Italy. We now turn to conditions in Georgia. I asked the Junior and Senior classes in the Atlanta College of Physicians and Surgeons for a statement of the cases of pellagra in their home communities with regard to sex and the relation of the homes of the pellagrins to standing or running water. Georgia is not in the statistical area, and this was as accurate a method as I could find to get an estimate. Thirty-six cases were reported, twenty-six women and ten men. Every one of the number but one either lived on or very near streams of water; this patient was a banker living in a small town and the relation of his residence to streams could not be determined. Thirty students reported from as many different communities. These separate reports follow.

No.	No. of Pellagrins	Residence.
1	3	Swamp, 3 streams.
2	3	Swamp.
3	1	Stream in 50 yards.
4	1	Location wet and swampy.
5	2	Stream in 1-4 mile.
6	1	Unknown.
7	1	1-4 mile standing water.
8	1	1-4 mile branch.
9	1	Between two streams.
10	1	1-4 mile pond and stream.
11	1	300 yards branch.
12	1	On Chickamauga Creek.
13	1	In 220 yards of creek.
14	1	In 300 yards of creek.
15	1	In 1-4 mile of creek.
16	1	On stream.
17	1	On stream.
18	1	Resided on pond 5 years.
19	1	Between two springs and fresh branches.
20	1	In 1 mile of stream.
21	1	In 250 yards of stream.
22	1	In 200 yards of stream.
23	1	12 years in 100 yards of stream.
24	1	15 years in 100 yards of stream.
25	1	In 1 mile of stream.
26	1	In 1-4 mile of stream.
27	1	In 30 yards of stream.
28	1	On sea coast.
29	1	In city.
30	1	In 100 yards of stream.

The testimony of these thirty men from different sections of Georgia and some of the other Southern States agrees in this: That the cases of pellagra in the South originate in those living on or near streams of running water. The idea was new to these students; they were from places far distant from each other, and yet their testimony is practically united. While in Franklin, N. C., last summer I investigated the premises and surroundings of a case of pellagra, a woman, who had recently died. The house bordered the road in front, and behind a branch of rapid mountain water ran in fifty feet of the back porch. On the right of the house was a perfect swamp, and the stream marked out a narrow mountain valley; exactly the same topographical conditions found in Italy by Sambon. These valleys and stream areas were so alike in situation and environment that he was able, after viewing the topography of a given locality, to state whether pellagra existed in that locality, and this without being in error a single time, and even before he was given the pellagra statistics of the area in question.

The Simulium fly is of the order Diptera, or two winged flies; family Simuliidae; with the one genus Simulium having species. Of there Sambon found three species in Italy—Simulium reptans, ornatum, and pubescens, chiefly the last. The two chief species in America are Simulium Venustum or black fly, the great biter of the Northern woods; and Simulium pecuarum, the Southern buffalo gnat. This buffalo gnat causes the death of many mules and domestic animals. It is found along the tributaries of the Mississippi, through the state of Mississippi, possibly all of Arkansas, in Tennessee, Kentucky and parts of Missouri, Illinois, and Indiana. Since 1850 this buffalo gnat has killed many thousand domestic animals. They appeared in Mississippi as early as 1818, and in 1884 killed in Franklin Parrish, La., 300 head of stock in one week. They do not seem to appear every year in damaging numbers, but are always more numerous in time of flood. Sambon notes that in Italy the greatest number

of pellagra cases occur in the flood and overflow years.

Two crops of the insect emerge from the streams each year; one appearing from February to April, and the other from September to December. The eggs are laid when possible in streams of rapid, shallow water, as in an ordinary branch or creek. Rock, leaves and brush in the water are good places. They hatch in about 8 days to a larva, passing in about four weeks into the pupa stage, and emerging in three weeks after having spent the pupa stage in the bottom of the stream, as the mature two-winged fly or gnat.. Pellagra is most active in spring and autumn, and toxins have no knowledge of seasons, whereas disease of parasite origin do have a relation to the seasons.

It has been shown that the same topographical conditions exist in Georgia and some of the other Southern States that Sambon found in Italy. It has also been shown by the united testimony of several students that practically all the cases of pellagra are rural in origin and exist along streams. I asked Dr. Bradley, Assistant State Entomologist of Georgia, to determine for me, if possible, whether any species of the Simuliidae existed in Georgia. He consulted Dr. J. M. Reade, Professor of Botany in the University of Georgia, at Athens, and they found in a creek two miles from Athens the larvae of the fly in such numbers that they completely covered some of the rocks. Attached at the anal end, they waved their two modified mandibles in the fast flowing water in search of desmaids, diatons, and other plankton. They were found February 8th, and they merged as the spring brood of the mature fly in March 27, 1911. This species was indentified as Simulium pictipes, a remarkable large species, found also and reported from the Adirondack Mountains, Texas, Michigan, and California. This species was identified for Dr. Bradley by Dr. O. A. Johannsen, of the Maine Experiment Station. The third condition exists in Georgia as in Italy, viz.: the presence of an abundance of Simulium flies. Lastly, we have a large rural population, as has Italy.

To Summarize.

1. Georgia and Italy both have pellagra.
2. Both have the same topographical conditions.
3. Pellagra originates in both territories along streams.
4. Both countries have an abundance of Simulium flies.
5. Both countries have a large rural population, from which most cases of pellagra originate.

This theory of Sambon has received the support of Sir Patrick Manson in the fourth edition of his book on Tropical Medicine; and Castellani and Chalmers support it in their recent book on the same subject. Professor Terni at the Pellagra Congress held at Milan, and Drs. Moore, Wood, and Taylor, spoke in favor of Sambon's insect theory at the Columbia, S. C., Congress on Pellagra, though Sambon had not in 1908 connected the Simulium with the disease. The supreme criticism of the theory lies in the fact that the parasite has not yet been discovered, and this discovery is necessary to complete the theory. Analogies are always dangerous, and when pursued too far lead one into an illogical abyss, but I think there is an analogy between pellagra and malaria. Both develop in swamp and stream localities, both have periods of seasonal incidence, and removal from the endemic areas common to each disease result in the improvement, and prevents re-infection. Laveran discovered the parasite of malaria in 1880, but it was not until 1898 that Ross discovered the mosquito as the definite host. It would have been just as real had Laveran discovered the insect first, and Ross the parasite last. Indeed, this is the order in which Sambon discovered the tsetse fly as the cause of sleeping sickness, insect first and parasite last. The parasite of pellagra is a discovery to which we may look forward in the near future. Certain it is that the corn theory is not in accord with the facts, and must die a theory death.

Discussion on Papers by Dr. Roberts and Dr. Harris.

Dr. J. M. Price, Tifton: There is no better illustration of the fact that we know practically nothing of the cause of pellagra than hearing the reading of these two papers; we should not be too much of a hurry in jumping at conclusions and decide that certain things brought up were true. Dr. Roberts states that there is not an iota of truth in Dr. Harris' statement regarding the cause of this infection; it is impossible for a man to live in the State of Georgia and not live more than a quarter of a mile from some stream of water. Because flies exist at the same

time that pellagra appears is no more a reason for assigning them as a cause of the disease than June bugs which exist at the same time. Biting insects have existed in the State of Georgia from time immemorial. This is a disease that can be produced in animals. It should not be stated positively that corn is a cause of pellagra; we do not know it; the scientific man does not believe it; Dr. Harris does not know it. No man is less inclined to accept such a statement than he. I really never knew a man so loath to accept such a statement as true than Dr. Harris himself. It is hard to establish the real cause of pellagra; no really scientific man is willing to believe conclusively that this disease is caused by maize. However, from the statements of Dr. Harris, we should try to accomplish something, to learn something more conclusive, to get more data in regard to the cause of this disease. More regarding the cause of pellagra can only be learned by careful observation of cases and close study of them.

Dr. T. J. McArthur, Cordele: I have been very much interested in the two papers read but will not attempt a discussion on the merits of them. Dr. Roberts and Dr. Harris disagree on the cause of pellagra; therefore, it would be useless for me to attempt any pronounced position. I simply wish to ask a few questions. I should first like to ask Dr. Roberts just how near a stream of water he would consider it necessary to live and to be in danger of contracting pellagra. There are not many places one can live in the State of Georgia, and this includes the rural districts, where one is not near some stream of water.

I should like to ask both of these gentlemen how, in their opinion, they account for the periodical manifestations that appear on the skin and mucous membranes, the lesions that occur during the spring and summer months. It seems that we have more than one exacerbation during one season. In the early spring we find manifestations in the skin and mucous membranes which last but a few days. There is a redness of the skin which soon passes away. Then in the course of a few weeks there appears another manifestation and this soon passes away. Again, later in the season there appears another manifestation which is more marked. I should like to ask what, in their opinion, is the cause of these numerous exacerbations that occur during one season.

I should like to know what they think of the value of the arsenic preparations in the treatment of pellagra, those that have recently been placed upon the market, especially the so-called "606.". I have noticed that some have been using this new agent in the treatment of pellagra and some have claimed to have gotten great results from its use.

Dr. Floyd W. McRae, Atlanta: One feature of this disease that has not been frequently discussed is its relation to surgery. I have in mind one case in which pellagra preceeded the development of a tuberculous peritonitis. I operated upon this patient and found a tuberculous peritonitis. The condition was relieved by draining the peritoneal cavity. The symptoms produced by the pellagrous condition led one to think they were of nervous origin.

Another case of a young lady was diagnosed as maize poisoning, and this was before I saw her. The symptoms, however, pointed to some lesion either of the appendix or of the gallbladder. I operated and removed her appendix. There were many adhesions about this organ. There was nothing very characteristic of other diseases and she seemed to improve for a time. She returned to her home. Then she developed a very marked eruption which soon cleared up. Then she had a severe attack of gallbladder trouble and it was thought she had gallstones and a very recent cholecystitis. Only one week ago last Monday I drained the gallbladder. I relate these two cases to show what surgery can do to relieve such diseases when associated with pellagra.

In many of these cases I think we are between the devil and the deep blue sea. In some cases we have tried the use of salvarsin, or "606" but improvement was shown only in two cases; in them the intestinal symptoms were bettered. This is too small a number of cases to attempt to draw any conclusions. The results obtained may have been independent of the injections they received.

Dr. S. T. Harris, Valdosta: With regard to this disease, pellagra, as it occurs in Italy, the infection from corn might have started and taken a long time in spreading. I should like to ask what experience they have had in the treatment of this disease with urotropin. I have used this agent in two cases and found that it had at least a favorable influence on the diarrhea.

Dr. S. R. Roberts, Atlanta, (closing the discussion): Dr. Harris has stated that all

real students of pellagra agree that maize is the cause of the disease; this is a view I cannot concur in. I would be willing to pin my belief on the statement that the corn theory is wrong on one proposition. Any theory to be correct must be in accord with the facts. There are people in Italy who have never eaten corn at all and yet have had pellagra. It does seem strange that some people get this disease which is supposed to be caused by eating the corn products, and yet they never have eaten the corn products of any kind. Because they have not eaten the corn products and yet have the disease, some have called this disease pseudo-pellagra. In Spain, where the disease has been quite prevalent, they do not use corn in any form; yet pellagra is rampant there as it is in the other provinces. Pellagra is a rural disease. The people in the cities get the soiled product and yet pellagra is not a city disease.

In regard to the point brought out about the disease occurring in people who live near the streams of water, this is very valuable; these insects have been found four miles away from streams of water, the water in which they originated. The whole State of Georgia is a fly territory. If the fly theory is correct, the nearer one lives to a stream of water, the more liable is the danger of infection. Flies have been found four miles away from the stream of water in Texas.

Dr. H. F. Harris, Atlanta, (closing the discussion): It is unfortunate that there should be such a discussion on the etiology of pellagra; if the present theory is generally accepted that the disease is produced by eating corn bread, or corn products, certainly no harm could result by leaving out corn or the products of corn from the dietary. This question of the relation of pellagra to corn and its products should be discussed and worked upon by scientific men and should by no means be decided upon by any popular vote.

Pellagra is a very fatal disease; it is an exceedingly common disease. I hold that if corn bread or corn products is responsible for the occurrence of pellagra, therefore, corn bread or corn products should be left out of one's dietary. I wish to reiterate that this is merely a theory, but it is accepted by competent workers in this field. Call it a theory, if you wish; I appreciate the fact that corn bread as a cause of pellagra is as yet a theory. However, this discussion is not between Dr. Roberts and myself at all. I lay no claim to being able to give you the exact causation of pellagra. I leave that to some of our best students of the past, especially Sambon. Dr. Roberts is entirely at loggerheads with Sambon on the etiology of pelagra. Sambon is an Englishman with no knowledge of pellagra whatever. When he made his first trip to Egypt it was with the idea of proving that pellagra was not due to corn bread or the corn products, but that it was a disease conveyed by the bite of insects. Any man who has watched the course of the average bacteriologist can know what he can accomplish. He can accomplish what he set out to accomplish. Some men acknowledge that they know nothing regarding the cause of pellagra. As a matter of fact, however, we do know a great deal about this disease, the knowledge obtained by painstaking work, work that has covered a large number of investigations, real, living work. Just compare Sambon's work with the work of men who have devoted their entire lives in this study.

Attention has been called to the development of pellagra coinciding with the bites of insects of our country; it is claimed that the disease develops at this particular time. The majority of the cases develop in the latter part of the winter when there are no biting insects. This is a question that can not be disproven; there is absolutely no basis for this except imaginative, such as that of Sambon's.

I wish to call attention to the fact that bad corn acts as a very bad poison to horses and kills them; it seems to be an extraordinary fact that the same poison will not kill a human being.

With regard to the cause of pellagra, the cause not being due to corn bread or its products, I have never seen such an instance. I have, however, heard of one case in which the individual drank one quart of CORN whiskey a day for over twenty years.

There is one fact I wish to call attention to, that a person may have symptoms of pellagra for a number of years after having stopped the eating of corn or the corn products. Time and time again have I seen people who have stopped using corn or the corn products develop in the following spring a mild attack of pellagra. Each spring this occurs but but it occurs milder and milder and in the course of about four years, the patient recovers. This can be likened to a man bitten by a snake, there follows gangrene of the skin every year, always at the same spot, there is that same tendency to recur each year.

It has been alleged that pellagra is produced by the bite of an insect, but this is not stated by any real student of pellagra. Sambon is not a real student of pellagra. It is stated that this disease is transmitted from man to man through the bite of an insect; any man who says that the disease is thus transmitted is a fanatic—he is not a real student of this disease. A gentleman from South Carolina said that there was a possibility that Sambon was correct; there is no man in this country, so far as I know, who will support his views.

I agree with Dr. Roberts regarding the food value of corn bread; at the same time, this has no bearing on the question of the causation of pellagra. When the corn is fresh and good, of course it is all right as a food.

SOME GASTRIC INTESTINAL DISORDERS IN PELLAGRA.

J. C. Johnson, M.D., Atlanta.

Gastro-intestinal symptoms in pellagra are so common that they may be counted an essential part of the disease.

To a great extent the gravity of the trouble can be measured by the condition of the alimentary tract. This being true, no study of pellagra would be complete without careful consideration of this phase of the subject. Our effort will be aided by asking three questions:

First: Do the Gastro intestinal conditions bear a causative or sequential relation to the disease?

Second: Are these symptoms and conditions an essential part of pellagra?

Third: Arising from the doubt, which must yet exist, even in satisfactory solution of the preceding inquiries. What is their place in its pathology?

Much light can be thrown on our field of investigation and a path of more direct pursuit suggested if the answer to the first is affirmative. If negative the second inquiry becomes less important and can be passed, it remaining for us to show how the cause or causes operate in producing these perversions, giving us in part an answer to the third or their place in its pathology.

If no conclusion can be reached the value of our effort will be commensurate with its application and use in treatment.

In April of this year the writer read before the American Gastro Enterological Association a paper the title of which embodied the foregoing questions allowing the answer to evolve, if it would, from facts which were established.

From this paper the table which you hold is extracted, and since subsequent observation confirms, in a general way, this report, we wish to use it for our present study. (See table on following page.)

Having in mind our first inquiry your attention is invited to column headed "Previous History." In this you will see that ten of the twenty patients had indigestion before the appearance of any symptoms ascribed to pellagra. In two of the twenty the previous history was uncertain.

In column headed "First Symptoms" you will observe that fourteen suffered with disorders referred to the alimentary tract, and that in the progress of the disease fifteen had nausea, seven vomiting, seventeen pain, fifteen diarrhea, four gastroptosis and six atony, while eight had profuse secretion of saliva and eleven sore mouth. You will also notice that in fourteen there was an absence of Hcl., and in two it was reduced. In seven there was no rennin. Just here we would emphasize the fact that no case with free acid had diarrhea and no case in our experience has died or become insane in the presence of Hcl., in the gastric secretion. The explanation of this we feel confident is not far from the unwritten secret of this strange malady.

The force of the suggestion would be lessened in comparison with similar conditions found in cancer achylia and atrophic gastritis were it not true that though present in the beginning, with development of the disease the acid grows less, and that pellagra has occurred in a greater proportion of atonic and achylic patients than in any other form of digestive disorder.

Whatever the cause may be its manner of operation cannot remain in doubt.

Disappearance of Hcl., from the stomach contents means inability of the secreting cells, change in the form or proportion of proximate principles in the blood, or perverted or diverted action of the secretory nerves.

By referring to the paper alluded to we would see that no definite relation exists between the state of the nervous system, eruption and gastro intestinal conditions, therefore, we cannot hope by defining the one to comprehend the other.

It is easy to explain the presence of diarrhea in the absence of Hcl., as a natural sequence. It is also easy to explain the ex-

	Age	Sex	Occupation	Previous History	Duration	First Symptom	Nausea	Vomiting	Pain in Stomach	Diarrhoea	Loss in Weight	Dizziness	Cough	Profuse Saliva	Ocular Symptoms	Heart	Lungs	Liver	Kidneys	Stomach	Test Meal	Fecal Examination	Eruption
1	64	Male	Farmer	Neg.	2 mos.	Dizziness	+	+	+	+	+	+	+	+	—	Normal Except Myasthenia in 11 and 12				Situ.	Hcl—R—	Nothing not Found in Ordinary Diarrhoea and Dysentery	Mouth and Hands
2	52	Female	Housewife	Neg.	4 mos.	Diarrhoea	—	—	+	+	—	+	—	—	—					Atony	Hcl—R+		Palms of hands
3	39	Male	Merchant	Indig'n	?	Indigestion	+	—	+	+	—	+	—	—	+					Situ.	Hcl—R—		Face and hands
4	40	Male	Farmer	Neg.	2 yrs.	Pain	+	+	+	+	+	+	—	+	—	Normal Except Tuberculosis in 18.				Situ.	Hcl—R+		Face, hands, mouth
5	36	Male	Lawyer	Indig'n	2 mos.	Pain	—	—	+	+	—	+	—	+	—					Situ.	Hcl—R+		Hands and mouth
6	35	Female	Housewife	Indig'n	1 yr.	Pain	+	—	+	—	+	+	+	—	+	Normal Except Large in 8 and 11.				Situ.	G+F 36 T 66		Hands
7	65	Male	Minister	Neg.	6 wks.	Pain	+	—	+	—	+	—	—	—	—					Situ.	G+F 38 T 74		Hands, arms, legs,
8	48	Female	Housewife	?	2 yrs.	Choking	—	—	+	+	+	+	+	—	—					Ptosis	Hcl—R—		Face and hands
9	32	Female	Housewife	Indig'n	1 yr.	Pain	+	+	+	+	+	—	—	—	—					Situ.	Hcl—R+		Hands, arms
10	34	Female	Teacher	Neg.	1 mo.	Drawing	+	—	—	—	+	+	—	—	+					Atony	G+F 32 T 50		Hands
11	36	Male	Merchant	Rheu'm	2 mos.	Nervous	+	+	+	+	—	+	—	—	—	Normal Except Albuminuria in 11				Situ.	Hcl—R+		Hands, arms, face, mouth, body
12	37	Female	Housewife	Indig'n	2 mos.	Diarrhoea	+	—	+	+	+	—	+	+	—					Situ.	Hcl—R+		Hands, wrist, mouth
13	51	Male	Salesman	Diarrh.	1 yr.	Eruption	+	—	+	+	+	—	+	+	—					Ptosis	Hcl—R—		Hands, arm, mouth
14	34	Female	Housewife	Diarrh.	4 yrs.	Diarrhoea	—	—	+	+	+	—	+	—	+					Situ.	G+F 30 T 38		Hands, wrists
15	37	Female	Housewife	Indig'n	2 yrs.	Eruption	+	—	—	—	+	+	—	—	—					Ptosis	G+F 24 T 42		Hands, mouth
16	32	Female	None	Indig'n	3 mos.	Eruption	—	—	+	—	+	+	+	—	+					Atony	G—F 18—T 38		Hands, mouth
17	26	Female	Housewife	?	6 mos.	Sore Mouth	+	—	—	+	+	+	+	+	—					Atony	Hcl—R+		Hands, mouth
18	28	Female	Housewife	T. B.	?	?	+	+	+	+	+	+	+	—	—					Atony	Hcl—R—		Hands, mouth
19	47	Male	Merchant	Neg.	8 mos.	Indigestion	+	+	+	+	+	—	+	+	—					Situ.	Hcl—R—		Hands, arms, mouth
20	52	Female	Housewife	Indig'n	1 yr.	Diarrhoea	+	+	+	+	+	—	+	+	—					Ptosis	Hcl—R—		Hands

istence of Ptosis or Myasthenia in the presence of general pervesion of metabolism, and the coexistence of Ptosis or Myastenia with subacidity or anacidity is not difficult of solution, but in the absence of complications usually a part or product of these conditions it is not easy to explain the presence of nausea, pain, vomiting, sore mouth and frothy saliva. Physiologists might show us how through direct irritation or reflex action from the stomatitis we may have execessive and perverted action of the salivary and buccal glands, but leave in doubt the immediate source of the membranous patches.

Only in diseases characterized by profound toxemia and suboxidation do we find this morbid process, and in our efforts to classify eruptive features of pellagra we can safely trace through the reciprocal relation of epithelial tissues its kinship to disease of bacterial orgin. This, however, is not intended to even suggest infection as a cause of pellagra, but rather to direct attention to the real nature of its morbid processes.

No less important than the cause is the condition with which we have to deal. It is true that in eruptive diseases such as measles, we have gastro-intestinal, and in scarlet fever a tendency to membranous inflammation. It is also true that in perversion of gastro-intestinal functions we have cutaneous manifestations, in both of which we are obliged to follow the extension through the circulation or ascribe it to a disturbed metabolism. But that the factors employed in each of this class of disorders are different, if not in character, in manner of operation is proven by the varied expressions of the diseases themselves.

Pellagra does not always appear as an acute toxemia. Nor is its history consistent with chronic infection. Other symptoms than these connected with the alimentry tract are more or less recurrent, or present more the form of exacerbations save in the fulminating type. While those referred to the alimentary tract usually antedate the eruption and nervous phenomena, are present throughout the disease, and are actively present in the closing scene of the tragedy.

The pertinency of this fact cannot be denied and it is entitled to serious consideration by all students of pellagra. Recalling the statement that in our experience not one having Hcl. has died nor become insane, the question becomes urgent. What relation does the secretion of gastric juice or any of its parts bear to the functions of the nervous system not in the state of physiological balance, but co-ordinately? Of course the mere absence of gastric secretion per se cannot and does not cause primarily such conditions of the nerve centres as must exist and have been demonstrated in advance cases of pellagra. It is more reasonable to suppose that the metabolic habit of the patient either incident to the disease or primarily inviting and opening to the way for its invasion is the cause of both. If it were true that all cases of Pellagra showed absence of gastric juice in the on set of the disease it would pre-suppose that it was either an incident of incubation in initiatory condition or a positive feature in its pathology. The absence of Hcl. is not essential to the occurence of the disease nor to a measure of development. Recently a case has been seen in which there was marked Ptosis and Atony, much emaciation and prostration, but Hcl. was present in normal amount. It is worthy of remark that this patient responded promptly to treatment. Besides this, at the same time, there was another patient with similar symptoms and conditions, except that Hcl. was absent. Her progress was not so good. It has also been demonstrated that in the presence of Hcl and typical eruption nervous symptoms are not so pronounced and in some have been practically absent. One patient, in mind, during a recurrence of the eruption four years subsequent to the first attack showed lack of acid, and her nervous system was much disturbed. The acidity was normal during the first attack, though she had marked gastro-intestinal discomfort. Sore mouth is not always a symptom of inanition, for it has been seen in vigorous patients with normal gastric juice, though rarely. It is more often present in advance cases, marked by debility, lack of acid and recurrent or persistent diarrhea.

It is easily apparent that the cause itself or its immediate products have a selective affinity for epithelial tissues and were it not for the noticeable absence of mucous from the gastric and intestinal contents we would be inclined to consider the morbid action closely akin to mucoid degeneration. Essentially there must be in cases marked by continued absence of Hcl. an atrophic condition of the acid cells, but perhaps not more than that present in other tissues of the body. In hibition of the scretory nerves cannot explain the phenomena, because of the insistency which prevails in the association of gastric symptoms and symptoms of the nervous system.

Some patients who have apparently recovered, or at least in whom the disease has subsided, have no return of acid. More than is usual in any toxic or infections disease, there must be a disturbance of in-organic equilibrium, and as a result abnormal electrolytic action. Out of this could arise many of the phenomena ascribed to the nervous system. If this presumption is well founded, the primary source of the disease or the predisposing condition is a departure from normal metabolism. The evolution of local processes and development of organic changes thus become obvious, and can be marked by the swing of the vital pendulum from digestion to nutrition.

If our deductions are correct, and there is no error in facts, argument is not needed to convince us of the urgent necessity of persistent and careful attention to the alimentary tract in the treatment of the disease.

A few words about the treatment. Our chief aim should be conservation. This is to be accomplished by properly feeding the patient, protecting him against adverse influences, avoidance of fatigue, securing sleep, proper elimination by the bowels and kidneys; supplying as rapidly as possible the elements lacking in nutrition.

The impairment of the digestive functions hinders very much the necessary feeding of the patient as a rule. Especially is this true where there is nausea, vomiting, pain and diarrhea, and in these the need is most positive. Usually a diet of milk, egg and crackers is best borne, and, having fixed values supply a definite number of heat units and elementary principles. Yet, in some of these the food must be more varied, partaking of the solid nature, especially where the diarrhea seems to be unfavorably influenced by the milk and egg. In such cases, barley gruel, cereals with bread and butter, white meat of chicken, or meat juice should be cautiously given.

The gastric or intestinal cramp or pain has been relieved by olive oil and egg, without seeming to materially affect other symptoms of the alimentary canal.

In patients who are free from these acute conditions a more liberal diet is indicated.

The diarrhea is usually controlled by Bismuth and Tannigen, when it persists despite other remedies used in the general treatment. Paregoric is permissible to relieve pain, if severe. Castor Oil and Cascara are given for constipation, unless the acidity is high, when Potassium Sulphate and Sodium Sulphate may be given.

In nearly all cases ℞

Potassii Chlorat, - ℥ii ss
Tr. Ferri Chlor. - F ℥ ss
Ess. Pepsin (F) q s. F ℥ v i

is constantly taken, suspending it only when there is positive evidence of gastric irritatation traceable to the mixture, which is rare. It is resumed as early as may be deemed advisable.

Calcium Sulphide in doses of 1-2 gr. three times daily is also given, except in cases of high acidity and constipation, when Potassium Sulphate and Sodium Sulphate is used.

Due attention is given to the myasthenia when present. In the absence of marked distrubance of the nervous system Faradic electricity is applied to the stomach and spine daily, or every second day. An abdominal support is also worn. If the nervous system is much impressed Galvanic current either alone or with the Faradic is likewise employed.

A CLINICAL ANALYSIS OF PELLAGRA.

Stewart R. Roberts, S.M., M.D., Associate Professor of Medicine in the Atlanta College of Physicians and Surgeons.

HISTORY OF A CASE OF PELLAGRA

Mrs. L., a widow of thirty, no children, complains of pains all over, and a diarrhea that comes every three months for about three days. Her pains seem worse in the waist line. Family history negative. In childhood she had measles, whooping-cough, and chicken-pox. She had good health until March, 1904, when her husband died of tuberculosis. In 1908 she was operated on for a movable right kidney double in size and her appendix removed at the same time. Her right kidney is still very sensitive. She felt bad in the spring of 1908 for two or three months, but improved after going to the mountains. This sense of being run down and weak recurred in the springs of 1909 and 1910. She improved each time after going to the mountains until August, 1910.

She is constipated at the present time, sleeps poorly, but has a good appetite. Her menstrual period has been irregular, and has not appeared in three months. She has suffered two nervous breakdowns in the last six years. She is very irritable and nervous at times. Formally she read a great deal,

but now she often has to read the same sentence or paragraph over two or three times before she can understand it, and she has difficulty in remembering even the simplest things.

Weight three years ago was 100 pounds; present weight, 86½. A tired nervous looking woman, with little strength. She gives one the impression of exhaustion. She is now, Sept. 13, 1910, suffering from nervousness and some abdominal uneasiness. The entire dorsum of both hands is rough, scaly, and the dorsum of the wrists present the same condition, the whole being a russet tint. The dry roughness extending up the forearm just above the elbow, but the color fades out above the wrist.

Between the fingers on the dorsum the brown changes to a pink or red; the skin tends to crack; and becomes sore. In this russet area the skin seems to be peeling in portions, and a whiter skin appears in places. The forehead is slightly rough, though not enough to be apparent without close examination. The heart and lungs are negative; gas in large amounts in the small intestines, and the abdomen has a peculiar appearance as if about to point at the umbilicus. She thinks her hands are slightly swollen this morning, but thinks a nervous, sleepless night had something to do with the swelling. Her pulse 96. T. 99. 5; urine 1005, acid, no albumen or sugar, and microscope shows nothing abnormal. Hemoglobin is 75, reds 4,602,950; whites 9,400. Height 5 ft. 1 in. Test meal and stomach contents showed 190 cc. Free HCL .15 per cent. Total acidity .33 per cent.

The diagnosis is pellagra of three or four years duration. She is apparently in the last stage, and the outlook is bad. She became gradually worse, increasing nausea and vomiting, and pulse rose to 130, T. 99.3.

On Oct. 9, four days before her death examination of blood showed Hemaglobin 70 per cent.; reds 2,780,000; whites, 6,970. Differential count: Polynuclears, 57 per cent. lymphocytes, small, 24 per cent.; large, 16 per cent.; eosinophiles, 3 per cent. Her fever and pulse continued to rise, great quantities of bile stained fluid vomited, gas in abdomen increased, abdomen distended, bowel movements of a quart of pure watery discharge. Dissolution on Oct. 13, with T. in axilla of 104.3° just before death.

Clinical Analysis.

The definition on which this study is based is simple. Pellagra is a systemic and endemic disease, neither contagious nor inheritable, characterized by a periodic erythema, an insidious course, and an involvement of the nervous and digestive system, slowly progressive.

The disease is systemic because it involves the whole body, and the patient seems to grow old rapidly. As it progresses, it tends to become a true cachexia, with a steady progress toward mummification. The loss of flesh advances pasi passu with the progress of the disease. The patient loses from 15 to 25 pounds during the first attack, and the mere "skin and bones" of the pellagrin is too often real. The muscles become weak, and the mind loses its activity, indigestion takes the place of digestion, the nervous system loses its cunning, fatigue, weariness, and gauntness succeed strength and flesh.

The diagnosis is the simplest feature of the disease. We can state whether the patient has pellagra, and the chief symptoms are clear cut. These chief symptoms are four in number, and relate to the eruption or erythema, the pulse, the digestive system and the mind.

The erythema seems to be the first, and most distinctive, and the most essential manifestation of the disease. It occurs in this climate from the beginning of spring to the close of the autumn. I have failed so far to see it in mid-winter. It occurs on the back of the hands, wrists, up to the forearm, and the skin at the elbow is usually very rough. Occasionally there is roughness on the arm, and forehead; and in this country less often than in Italy, an eruption on the face and feet. The eruption varies from a slight roughness of the epidermis comparable to dry, scaly exzema, to a bluish red erythema that fits like a glove on the hands, with pain, burning or itching. The glove hand of the pellagrin is distinctive.

If a pellagrin is seen in the intervals between the eruption, the diagnosis is more difficult. Considered with other symptoms, if the patient is a pellagrin and has had the eruption, on close examination the dorsal knuckles of the first and second phalangeal joints will be found a little rough, and divided into tiny squares, like the horny knuckles of a laborer, though the squares in the pellagrin are much smaller. The elbows are also rougher than normal.

Second, the digestive system. This presents the three group symptoms of beet tongue, indigestion, and occasional diarrhea. The tongue is next to the eruption, the most distinctive feature of the disease. It is

similar in appearance to a cut beet, it glistens like the beet, and is a tongue without a coat. For this reason it is sometimes called the bald tongue. As the case advances the tongue becomes covered especially in the middle, by short crescentic furrows. Between attacks the tongue may become coated and the only difference presented by the tongue be a few red, elevated, isolated fungiform papillea studding the tip and ends of the tongue.

The patient has indigestion. This to a large degree sums up the situation of the abdomen. Nesbit quoted by Hyde, found lessened acidity and increased mucous, with normal motility. The patient complains of heaviness in the stomach, gas in the intestines, an uneasy feeling as of gnawing in the stomach. The abdomen seems to be either too light or too heavy. The patient knows that digestion has become indigestion. And there is one distinctive quality of this indigestion in pellagra; there is a feeling of indigestion whether anything is eaten or not. As one remarked, "I have trouble in my stomach when I eat and when I don't eat."

The diarrhea is periodic. In the case given, it occurred at intervals of three months and lasted about three days. One thing is certain, as the disease advances the periods of diarrhea increase in number and in length, and at times the terminal diarrhea is almost constant. These attacks come and go without apparent cause or reason. It is a pure serous diarrhea, without pain.

Third, the pulse of pellagra is fast. and the patient is without fever. The average pulse in six pellagrins in comparatively good condition was 92. As a rule it runs between 80 and 100. As the disease progresses, the pulse increases in frequency, and is one of the best indications as to the advance of the disease and the condition of the patient. If the pulse rises over 100, a period of attack is beginning or the patient is entering the terminal stage. The pulse volume is small, though the pulse is regular both in volume and in time. The pulse wave falls with great rapidity, after the manner of the Corrigan pulse in an aortic regurgitant.

Fourth, the mind. The mind is slow in action, poor in its ability to see and grasp ideas or conditions, memory fails and conversation is slow. The history of the case is detailed slowly and with great effort, there is almost an inability to answer a question directly, mental connection with the past and future become hazy, and it is an effort for the pellagrin to relate himself to the passing present. Once in consulting room he lingers, and seems unaware of the passing of the time. The introduction of a new subject causes a mental effort to incorporate it into his consciousness; his mind moves on low speed. He has little will or mental energy.

These are the four chief classical symptoms of pellagra. I shall now refer briefly to other less important symptoms and conditions.

The blood pressure averages from 80 to 110 mm. of mucury, the average being probably about 100 mm. One woman in good condition for a pellagrin had a pressure of 116 mm., the highest I have seen in a woman. No fever, low blood pressure, and rapid pulse is the rule.

Sambon found nothing abnormal in the blood of pelligrans except a slight anaemia, with even this variable. In the case noted the hemaglobin was 70 to 75. A count in another case is as follows:

Hemaglobin 80 per cent.; red cells, 4,250,000; whites, 5,600; differential count; small lymphocytes, 19 per cent.; large lymphocytes, 15 per cent.; polynuclears, 59 per cent.; transitionals, 3 per cent.; eosinophiles, 3 per cent.; mast cells, 1 per cent. In nine counts in the Davis cases in Illinois the eosinophiles average .33 of one per cent. a low grade anemia, and excess of the large mononnuclear lymphocytes at the expense of the polynuclears, and few eosinophiles is the rule in pellagrous blood.

The urine is scanty, of low specific gravity, and light color. Only in the last stages is there apt to be a slight nephritis, with some albumen, and a few hyaline and granular casts. If any albuminuria, it occurs toward the close of the disease.

The feces are negative as to any abnormal microscopical constituents. Some observers have reported to have found small ameboid bodies on the feces of all pellagrins, but there has been no uniformity of report as to these bodies. They are probably epithelial cells or leucocytes. The feces tend to be thin, and even watery during the diarrhea periods. At times the feces have a peculiar oder like sour barley or fresh cut corn from roasting ears. In the terminal stage the liquid content is out of all proportion to the solids.

The saliva does not seem to be noticeably increased until the terminal stage of the disease. Then it may increase to such a degree that it drools from the mouth in tenacious strands. and the patient and at-

tendants are kept busy wiping it away. Such a patient is in one of the most pitiable conditions possible to human flesh. In one case this drooling of saliva lasted a month. When there is an excess of saliva, there is little diarrhea, and vica versa. The saliva contains many epithelial cells, excess of mucous; but is otherwise unchanged except in quantity.

The menses tend to disappear. They may disappear in the spring and reappear as the patient improves. Out of more than twenty women pellagrin at the Wesley Hospital in Atlanta, only two menstrated, and then very little.

The prognosis in pellagra is bad. From November, 1908, to August 1, 1911, the Wesley Hospital has had twenty-eight cases. Of these 10 died, 8 improved, and 10 were discharged unimproved.

The mortality here was nearly 36 per cent. Some of the discharged cases have since died. The American mortality is about 35 per cent. though Searcy in epidemic in Alabama had a mortality of 64 per cent. The American cases seem to run a more acute course with a higher mortality than the European cases. The continued rise of the pulse to 120 or more, increased stomatitis, delirium, serous diarrhea, and the onset of fever are mile posts toward the close of the race.

MALARIA—WITH A REPORT OF SOME CASES OF IRREGULAR REMITTANT MALARIA.

Henry C. Whelchel, M.D., Douglas.

The profession has almost solved the problem of malaria in all its phases, but, notwithstanding our long study, and vast knowledge of the life history of the malarial parasite, both in man and the mosquito, notwithstanding our familiarity with the many manifestations of the disease, and notwithstanding the fact that Physicians know that it is easily prevented, and usually yields to treatment, malaria although decreasing in severity and frequency, continues as one of the most prevalent diseases in many locations of the State, and in some places its mortality rate is quite high.

Again I believe that malaria as a complication of pregnancy and a number of diseases, and as a cause of arterioschlerosis and nephritis is responsible for many deaths, which are ascribed to other causes.

While we might thing Dr. Seale Harris a little radical when he made the statement, "That malaria can be eradicated in one year in any community without regard to the number of anopheles present, if every person having the disease, will take quinine long enough to be cured." The above assertion has been practically proven in the Canal Zone. We should remember that it is man and not the mosquito that carries malaria through the winter, thus perpetuating the disease.

So the most important measure in this fight against malaria is to cure the patient, and it is this phase of the subject that I wish to impress today. Too often we fail to regard malaria as a serious disease. We relieve the acute symptoms in a few days and when a patient dies of malaria, we feel that the patient neglected himself, and did not begin treatment as early as he should have. We should emphasize the seriousness of the disease, and the importance of its radical cure. The complications of malaria, which result from our failure to cure our patients, are responsible for many deaths.

The manifestations of malaria are protean, and no organs in the body are exempt from its ravages. However, its most marked effect is seen on the renal organs, and the vascular system. As a consequence in malarial regions, the mortality from nephritis, and the various forms of paralysis is inordinately increased.

There would be but little chronic malaria, if the acute cases were cured, but there are today thousands and thousands of people in the United States carrying within them masked malaria.

A Few Words on Treatment.

There are differences of opinion as to the time of administering, the dosage, and duration of treatment, but all authorities agree that quinine is almost a specific in malaria, and if continued long enough will eradicate the parasite, "no parasite," "no quinine" is a good rule, but a large number of us, and especially we who practice in the rural districts, where malaria abounds, have no microscope, nor the time to make blood examinations, therefore the diagnosis must be made from the clinical symptoms, and quinine given while we watch for symptoms of other diseases.

There are differences of opinion as to the most favorable time of the day to administer quinine. I have followed Deaderick, Craig, Rogers, and other authorities, which

is to keep the patient continually under the influence of quinine, by giving small doses, repeatedly at short intervals, with perhaps an extra dose about four hours before the expected paroxysm. In the acute and severe estivo autumnal types, the quinine may have to be kept up in larger doses for a long time, because the crescents are very resistant to quinine. But the question I wish to emphaisze, is: How long should the quinine be continued to attain a radical cure? Deaderick says, "A few days treatment with quinine no more cures malaria, than does a few weeks rubbing with mercury cure syphilis." Ross says, "To exterpate the parasite in a patient demands four months assiduous cinchonization," Thayer advises small daily doses (6 grains) for three to four months.

It may have been the original intention of our Creator, that all human creatures should start the race of life with the same equipment of physical and functional strength, and many generations back in the history of the human family such may have been true. The profession would be relieved of an ever present problem, if all of God's favored creatures acted and reacted alike to drugs and diseases.

I now wish to give a short report of some cases, which Thayer calls, irregular remittent malaria, that does not respond to quinine.

Case First, Prof. D.

Nov. 11, 1908, was called to patient.
Diagnosis, Malaria.
Given mercury and quinine.
Nov. 13tth, patient better.
Nov. 25th, called again, given quinine.
Nov. 26th, patient better and out.
On the night of the 27th, had chill.

Record incomplete from this date to the 7th of December. However, the patient had continuous fever on these days, and was given from 15 to 30 grains of quinine by the stomach each day.

Dec. 8th, Tem. 103 3-5 to 104 2-5.
Quinine grs. XX.
Dec. 9th, Tem. 99 2-5 to 103.
Quinine in solution gr. XXX.
Vomited mucus and blood.
Blood examination no crescents.
Dec. 10th, Tem. 97 3-5 to 102.
Quinine Hypo. Gr. XX.
Hemorrhage from bowels.
Dec. 11th, Tem. 101 to 103 1-8.
Quinine Hypo. gr. XV.
Hemorrhage from bowels.
Dec. 12th, Tem. 100 to 103 1-5.
Quinine Hypo. gr. XX.
Hemorrhage from bowels and vomited blood.
Examination of blood.
Heamoglobin 90 per cent.
Red cells 4,600,000.
Malarial crescents present.
Dec. 13th, Tem. 101 to 103.
Quinine Hypo. gr. XV.
Hemorrhage from bowels.
Dec. 14th, Tem. 101 to 103 1-8.
Quinine Hypo, gr. XV.
Dec. 15th, Tem. 100 4-5 to 104.
Quinine Hypo, gr. XV.
Hemorrhage from bowels.
Blood examination, crescents reduced.
Dec. 16th, Tem. 100 to 104 3-5.
Quinine Hypo, gr. XV.
Mucus and blood expectorated.
Dec. 17th, Tem. 100 1-2 to 103 1-2.
Quinine Hypo, gr. XV.
Dec. 18th, Tem. 98 1-2 to 101.
Quinine Hypo. gr. X.
Dec. 19th, Tem. 100 1-5 to 103.
Quinine Hypo, gr. XV.
Dec. 20th, Tem. 100 1-5 to 103.
Dec. 21st, Tem. 100 1-5 to 104.
Dec. 23rd, Tem. 101 1-5 to 103 1-5.
Dec. 23rd, 101 1-5 to 103 1-5.
Dec. 24th, Tem. 102 to 103 3-5.
Dec. 25th, Tem. 98.
Dec. 26th, Tem. 97 2-5 to 104 1-5.
Quinine by stomach, gr. XX.
Dec. 27th, Tem. 101 1-5 to 103 1-5.
Quinine Hypo, gr. XV.
Dec. 28th, Tem. 102 2-5 to 104.
Dec. 29th, Tem. 100 2-5 to 103 4-5.
Blood examination.
Crescents negative.
Heamoglobin 60 per cent.
Widal reaction negative. (Dr. H. F. Harris.)
Dec. 30th, Tem. 99 4-5 to 103 4-5.
Dec. 31st. Tem 101 1-5 to 103 1-5.
Jan. 1st, Tem. 100 4-5 to 103 2-5.
Jan. 2d, Tem. 99 to 102 4-5.
Jan. 3rd, Tem. 100 2-5 to 102 4-5.

Patient gradually improved, but recovery was slow, being complicated by three abscesses, one on the arm, one on each thigh caused from injections of quinine.

Case 2d. Prof. S.

Taken on November 25th or 26th.

Through the courtesy of Dr. Roberts, I report this case, having myself seen the patient only twice.

Had hemorrhage from both bowels and stomach.

Blood examination.

Malaria crescents present.

Widal reaction negative. Dr. H. F. Harris.

Quinine was given both by stomach and Hypo.

Patient died about Dec. 12th.

Case 3rd. Mr. W.

Was taken about Dec. 1, 1908.

Called to see him on Dec. 8th.

Had hemmcrrhage from stomach on Dec. 11th. Hemorrhage from bowels on Dec. 12th and for four or five successive days.

Examination of blood.

Malarial crescents, no widal.

Patient recovered after about five weeks illness. Had enlarged spleen for months after illness.

Case 4th. Miss L. School Girl.

Saw her one time early in Dec. 1908. Sent her home, heard she died from hemorrhage of bowels three weeks after the beginning of illness.

Each of the first three cases above mentioned had tenderness of bowels, tympanitis, dry lips and mouth, listless expression, truly a typhoid appearance.

Again they were cases where quinine did not give results.

ANTI-TYPHOID VACCINATION IN U. S. ARMY.

Charles H. Halliday, M.D.

I desire to state that, I have nothing of an original nature to offer upon the subject of anti-typhoid vaccination and must content myself with a brief review of what has been accomplished in the Army.

Typhoid fever is the special scourge of armies.

The Union Army had over 80,000 cases recognized as such.

The Germans in the war with France in 1870, had over 73,000 cases during a period of six months.

In the war with Spain, the American Army had 20,738 cases with 1,580 deaths all occurring within 3 1-2 months. One regiment, out of 1,236 men had 612 cases.

The method of anti-typhoid vaccination was worked out by an English army surgeon, and used with more or less success among British soldiers going to the Boer War. The results were but fairly good and it was only after some years of further experimentation that it was found, that not enough of the vaccine had been used, and that a second, and even a third injection at intervals of about ten days, was necessary to produce satisfactory immunity.

The Germans, in the campaign in Southwest Africa, 1904 to 1907, cut their typhoid rate in half by the use of anti-typhoid vaccination. In 1908 the British vaccinated about 6,000 of their soldiers in India and maintained an equal number of unvaccinated. It was found that seven times as many of the non-vaccinated contracted typhoid and eleven times as many died of it. In view of the success with typhoid vaccination in the German and British armies, Major Russell, Medical Corps, U. S. Army, was sent to England and Germany to study the method and report upon it. His report so thoroughly indorsed it, that the Surgeon General, convened a Board composed of a number of the foremost medical scientists in this country to study the matter and make recommendations as to the employment of the procedure in our army. The Board recommended the immediate introduction of the practice of voluntary vaccination in the Hospital Corps, the Army Nurse Corps, and in any expedition of troops from the regular army which is ordered to take the field for active operations; and further that an opportunity be given volunteers from the army as a whole to be protected by vaccination against typhoid. At the time this Board met 35,000 men in the German and British armies had been vaccinated, with no bad results to any of them, but with remarkable results in the prevention of typhoid fever.

Up to Oct. 1, 1910, 13,000 officers and men of the U. S. Army had taken the treatment, with no untoward results in a single case. Among these, but five cases of typhoid fever have developed of which four were so mild as to leave doubt about the correctness of the diagnosis.

All five cases made an uncomplicated recovery.

The material now employed in the U. S. Army is prepared in the Army Medical Laboratory at Washington, D. C.

It consists of a culture of typhoid baccili, which have been killed by subjecting it to a temperature of 133° F., and a small percentage of disinfectant added to insure its keeping properties. It is then placed in sealed glass tubes and sent to the Posts throughout the country.

The method of giving typhoid prophylac-

tic in the Army is as follows: The first dose is 1-2 c. c.; the second and third are each 1 c. c. An interval of ten days being allowed between doses, the entire course thus requires twenty days. The inoculation is given subcutaneously in the arm at the insertion of the deltoid muscle. The use of Tr. iodine diluted with an equal volume of alcohol has proved satisfactory as a skin disinfectant. The syringe and needle should be sterilized by boiling. The most suitable time for administration of the prophylactive is about four o'clock in the afternoon, as the greater part of the reaction is then over before morning. There is usually some headache and malaise and a local reaction consisting of a red a tender area at the site of the inoculation. Some have proven very susceptible and developed a marked general reaction, headache, backache, nausea, vomiting, herpes labialis and some loss of body weight. The number of such reactions have been very small, and regardless of their severity they all disappear completely inside of forty eight hours. No untoward results of any kind have ever been noticed. The value of this procedure has been observed recently. A Company of Engineers stationed at Washington Barracks numbering 130 men, had all but 26 of its men vaccinated against typhoid. On the return march from the maneuver camp at Gettysburg, seven of the men contracted the disease and every one of them were of those who had declined the treatment. Another remarkable example is that of the 11th Cavalry, stationed at Fort Oglethorpe, Ga. This regiment had been in camp at Nashville when typhoid was known to exist. They were encamped at the outskirts of the city and furnished with water from the city mains.

On the return of the 11th Cavalry to station, typhoid appeared among soldiers who had been at Nashville and within the period of incubation. No local focus could be discovered. At this time only 165 of the regiment had ben inoculated. By a post order the entire regiment (736 were inoculated and 70 civilians received the treatment. No new cases appeared. Sept. 27, 1910, all troops of this regiment, left on a 21 day march, going to Knoxville, Tenn., and return, and through country the population and general condition of which resembled that at Nashville. Typhoid existed in Knoxville and Soddy, where the regiment encamped. There were no attempts to boil or sterilize the drinking water used on this march, the supply being from whatever was used locally. After spending 21 days in a country where typhoid is known practically throughout the year and having lived under war conditions, the sick report was reported to be nil.

No subsequent cases of typhoid developed. In March of this year there were ordered to Texas 20,000 troops of the regular Army. They took the field on short notice and under war conditions.

Of these troops, all who had not received the anti-typhoid vaccination, were vaccinated upon their arrival in Texas. After remaining in camp for a period of three months or more, only one case of typhoid developed among the 20,000 men stationed there. His was a very mild case.

There was one additional case, which occurred in a teamster who had refused the treatment.

Those of you who recall the number of typhoid cases occurring among the camps, during the Spanish-American War, will appreciate fully the history of the camp in Texas.

The results obtained at the camps in Texas appear to me more remarkable, from the fact that there were constantly being sent to it raw recruits. Ani-typhoid vaccination having been made compulsory in the Army, these recruits were all vaccinated before leaving the place of their enlistment.

In a report of Sanitary conditions, at Maneuver Camp, San Antonio, Texas, Capt. Frank W. Forworthy, M. C., Indiana National Guard, states: "Never in the history of the world has such a large body of troops been so free from typhoid."

The more money The Journal of the Medical Association of Georgia makes out of its advertisements the less it costs the State Association to run the paper. This means that every member of the State Association has an interest in the advertising columns. If one business firm advertises and another does not, patronize the one that does. It is money in **your** pocket.

Courvoiser's law is rarely broken—enlargement of the gall bladder with pronounced jaundice means neoplasm.

When removing stones from the gall ducts don't neglect to explore the hepaticus—with a probe or, better, a narrow blunt spoon.

An injection of bismuth paste may definitely close a troublesome empyema sinus.

REPORT OF A CASE OF EMPYEMA*

A. W. Simpson, M.D., Washington.

It has been my purpose to prepare a paper on Empyema, but, on account of limited time, I have decided to report what I consider a very interesting case of this well-known disease.

My patient is a little girl about eight years of age who comes distinctively of a tubercular parentage. Her father and paternal grandmother and aunt died of consumption, one uncle and two aunts of her mother died of consumption. A sister of my patient died when quite young of the same disease. The patient lived in the house at the time of the death of her father, sister, and aunt. Patient from infancy has been of a weak constitution.

It was as far back as February, 1909, that I was first consulted, at which time I found her suffering from disturbed digestion, irregular fever, slight dry cough, and general malaise. Examination of the lungs revealed nothing except a harshness of the respiratory murmur; heart and kidneys normal. In December, of the same year after several months of comparatively good health I again saw this child under same conditions as before. During the months of February March, April, and May of the year, 1910, she manifested the same symptoms as before with some loss of flesh and weight. Under open air and tonic treatment she improved until January, 1911, when she contracted a severe cold with an increase in cough and expectoration. This cough was slight after noon elevation of temperature and frequent headaches lasted until about the middle of March. On the 25th of March she became rather suddenly ill, suffering from an intense headache and persistent vomiting, rapid pulse, and some elevation of temperature, slight tenderness and distension of abdomen. A close examination of the lungs revealed only what had been previously noticed. The headache, which was continuous, became more intense with a considerable degree of opisthotonos, pain and distension of the abdomen markedly increased; pulse rapid; though strong; temperature 102 2-5. During the next four or five days examination of lungs revealed nothing. It was on the eighth day of her illness that during a paroxysm of coughing, which lasted for two hours, she expectorated quite a good deal of bright blood. This condition continued for several days with a temperature ranging from 99 to 101. On the twelfth day of her illness examination of left side revealed a dullness or flatness on percussion with a distant respiratory murmur. The heart was slightly displaced to the right. With the assistance of Dr. B. F. Riley, of Thomson, I used the exploring needle and aspirated about one pint of sero-purulent fluild. A slight improvement followed, for a few days, after which a return of symptoms greatly increased, patient becoming delirious with frequent sweating and some diarrhea. I advised an operation and with the assistance of Dr. R. A. Simpson I made an opening under a two per cent. solution of cocaine in the seventh intercostal space on the posterior axillary line. The opening in the pleura was made sufficiently large to introduce a heavy drainage tube about one half inch in diameter. The wound was dressed antiseptically twice daily, there being a considerable amount of thick, creamy, odorless puss discharged. In about five days I made an attempt to irrigate the pleural cavity with a boric acid solution, but came so near drowning my little patient that I should have abandoned the idea altogether had I not noticed a slight improvement in her condition. I made four or five attempts at different times to irrigate, each time there being a violent paroxysm of coughing with a quantity of puss and water expectorated, after each attempted irrigation the patient seemed improved until finally the water and puss came back through the drainage tube; after which I kept up daily irrigations until the water came back clear. I gradually reduced the size of my drainage tube until opening in the chest healed.

Except for surgical interference the case was treated symptomatically. After a three months illness with my patient on a good tonic, having instructed her to expand the chest walls by forcing water from one bottle to another, I discharged her apparently well.

Sputum and puss were examined at the laboratory of the State Board of Health for tubercle bacilli with negative results.

All authorities consulted mentioned the possibility of tubercular infection, and my patient having a tubercular history led me to strongly suspect a tubercular supuration of the pleura. The important things to be learned from this case are an early diagnosis and an early evacuation of the contents of the pleural cavity. An early diagnosis can usually be made when one finds flatness on

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percussion, auscultation revealing a distant respiratory murmur, the heart being displaced, irregular temperature and sweating, and by the use of the exploring needle. The early evacuation of the contents of the pleural cavity most often insures an early recovery.

EYESTRAIN.*

Otis H. Johnson, A.M., M.D., Athens.

In re-opening the discussion of this time-worn and threadbare subject of eyestrain, I feel that an apology for so doing would fittingly precede my remarks, and it may be that I will add nothing new to the mass of literature concerning it; but, nevertheless, a condition about which so much has been said and written is necessarily of importance, and the attention of the profession cannot be called to it too frequently, nor can too much stress be laid upon the baleful effects of this widespread and too often **unsuspected** defect. For it is important; it is of **vast** importance, and the physician should be as vigilantly on guard for the detection of eyestrain as for any other disease which could destroy the health and cause a lifetime of suffering and despair.

From the standpoint of the general practitioner, first and foremost in the consideration of this question comes **diagnosis**; if he detects, or strongly suspects, eyestrain, the battle is half won. And the symptoms are usually plain enough to enable him to make an intelligent diagnosis provided he keeps in mind a few salient points.

Symptoms.

The symptoms of eyestrain are:

Headache,

Vertigo and nausea.

Dyspepsia.

Nervousness.

Weak sight.

Conjunctivitis, either chronic or recurrent acute.

Blepharitis, or inflamed, scaly lids.

Styes.

Other more obscure and less frequent symptoms are:

Epilepsy.

Melancholia.

Tachycardia.

Neurasthenia.

By far the most important of these is **headache**, and next, from a diagnostic standpoint, comes the different chronic irritations of the conjunctiva and lids.

A prominent authority has lately stated that ninety per cent. of all headaches are of reflex origin, and that ninety per cent. of all reflex headaches, or eighty-one per cent. of the whole, are due to eyestrain. These headaches are of many varieties; the ordinary simple kind, the distressing sick headache with vertigo, nausea and extreme depression, supraorbital headaches, temple headaches, occipital headaches, and neuralgic pains down the neck and radiating into the shoulders and spine.

As to the occurrence of reflex eye headaches, I cannot do better than quote a paragraph from the "Therapeutics" department of the Journal of the American Medical Association, of July 22, 1911:

"The title given to most of these headaches by the laity is 'a bilious attack,' and the cause is attributed to overeating, eating at night, eating indiscriminately, or is attributed to particular kinds of foods, which, if the patient is old enough to decide for himself, are gradually removed from the diet, until almost every kind of food and drink is subjected to more or less suspicion. He then attributes his trouble to his liver, or finds serious fault with his stomach. If he is constipated, he lays it to that, as he finds that after free catharsis, or at least after such a length of time as a cathartic will generally act, the headache disappears. He therefore thinks it is due to constipation. Girls and women with these eye defects are more likely to have headache before or during menstration, and they attribute it to that function. Others learn that they get these headaches when they are overtired mentally or physically. Some soon learn to become suspicious of their eyes on account of having the headache after theater-going, card playing, carriding, shopping, sewing or reading too long, or, if they are office clerks, after an extra amount of proof-reading or of mathematical work."

The amount of refractive error is frequently out of all proportion to the amount of pain and reflex symptoms; I have seen a bright, high-strung girl of eighteen enduring such torture from chronic violent headaches that she was forced to give up her class at school which she was leading, and after wearing glasses for only one quarter of a diopter of astimatism obtained complete relief immediately. On the other hand, upon examining a stolid German who had

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never had a headache in his life, but who wanted his eyes examined because "he thought maybe his eyesight was a little dull" I found eight diopters of compound astigmatism, or thirty-two times as much as the girl whose life was rendered miserable by a quarter of a diopter.

Many patients who suffer from severe reflex headaches of ocular origin have better than normal sight, and never suspect that the eyes are to blame; the physician must suspect it for him. Good sight does not necessarily mean that there is no eyestrain present; there may be such a small refractive error that the patient does not believe his sight is bad, but that small error may be enough to give reflex symptoms.

Now the logical thing to do in dealing with all headaches is first to **find the cause,** and if the general practitioner cannot find it outside of the eye, let him turn the case over to the oculist and give him a chance to locate the trouble in the eye, or eliminate that organ from the list of possible causes. It is most reprehensible to feed a chronic headache victim on dopes of all description, on morphine, acetanilid, antikamnia, bromoseltzer, and all sorts of patent remedies which the patient may himself pick up, without first learning positively whether or not the eyes are to blame; treat the **cause,** and not the **symptom.**

Passing from the subject of headache, the next important symptom of eyestrain which will draw the attention of the physician, is the chronic inflamed condition of the conjuctiva and lids. Whenever you have a case of chronic conjunctivitis or blepharitis, or a succession of styes, or a case of recurrent acute conjunctivitis, which refuses to answer to treatment readily, there is more than apt to be eyestrain present, and a thorough examination should be made to ascertain whether there be any.

In examining the eyes for glasses I believe in dilating the pupil in every case and measuring the eye most thoroughly with the retinoscope, as well in the case of the presbyope as in that of the child and young adult. I place my main reliance in the retinoscope and use the ophthalmoscope, the ophthalmometer, and the subjective test merely as adjuncts to the all-important retinoscope; if the subjective test of reading disagrees with my findings with the retinoscope the subjective test must be disregarded.

In children up to twelve years of age atropine is the proper mydriatic; from that age to forty homatropine is best, and after forty cocaine must be used, except in rare cases, on account of the danger of inducing glaucoma with a more powerful drug at that age. From forty-five on cocaine is a very reliable mydriatic, though it is rather unreliable from forty to forty-five. In examining patients over forty for glasses I have obtained most gratifying results by measuring the eye with the retinoscope after dilatation with cocaine, and have thus been able to discover many hitherto undetected and uncorrected errors of refraction which could not be determined by the usual subjective reading test given the presbyope. Many times I have found in presbyopes a considerable amount of eyestrain which was undoubtedly present during many years before the age of forty, and this variety of error must not only be corrected for distance vision, but the amount must be added to the usual correction for age for the reading glass, necessitating two different pair of glasses, or a bifocal glass. The retinoscopic examination and the dilatation with cocaine requires a great deal more time than the ordinary reading test, but this is a case where it pays to be careful and thorough, and I proceed upon the theory that the prescription of a reading glass requires as careful examination as that of a glass for distance in a younger person. The oculist who gives the presbyope merely a reading test, and assumes that his eyes were normal before forty, without being certain of that fact, is derelict in his duty, sto say the least.

In conclusion let me urge the physician to watch for the reflex headaches of eyestrain, and to suspect the eye in all cases of headache for which he cannot find a definite and positive cause.

District Meeting—At the annual meeting of the First District Medical Society held at Savannah, August 7, the following officers were elected: President, Dr. Edward T. Coleman, Greymont; Vice-Presidents, Drs. Lorin V. Strickland, Cobbtown, and John W. Daniel, Savannah; and Secretary-Trasurer, Dr. John M. Sigman, Savannah.

Medical College Directors Named—The governor has appointed the following directors of the Medical College of Georgia, Augusta: Hon. A. L. Miller, Macon; Hon. Enoch H. Calloway, Augusta, for two years; Hon. John T. West, Thomson, and Hon. William A Latimer, Augusta, for four years, and Hon. P. A. Stovall, Savannah and Hon. L. C. Hayne Augusta, for six years from Aug. 3, 1911.

OBSCURE APPENDICITIS—REPORT OF CASES.*

J. P. Proctor, M.D., Athens.

It is not my intention to rehearse for you the classical signs and symptoms of the disease described in thetext-books as "Appendicitis", but to report to you a series of cases for which I can find no better name than "Obscure Appendicitis"—cases obscure not only as to the existence of appendiceal disease at all, but also vague and misleading as to the severity of the disease when it does exist. Cases in which the diagnosis can be made only by exclusion, and not by the classical symptoms of pain, localized tenderness, nausea, vomiting, muscular rigidity, elevation of temperature and acceleration of pulse rate. I feel safe in saying all of the five cases reported below would have terminated fatally had they been treated, as so many medical men please to term it, conservatively.

Case 1. E. B., white girl, fourteen years of age, was brought to St. Mary's Hospital from Statham, Ga., on Sept. 27, 1907, having been taken suddenly ill seventy-two hours previously with severe abdominal pain, nausea and vomiting. Previous history was negative. While being taken from the station to the hospital, patient vomited fecal matter several times. Diagnosis by the attending physician was intestinal obstruction. Examination revealed relaxed abdominal walls, no tenderness on pressure, temperature normal, pulse rapid and compressible, mouth dry, tongue heavily coated, patient suffering intensely with pain in abdomen.

The abdomen was opened by median incision and careful search made for obstruction, nothing being found except one small strip of omental tissue which was attached by one end to the gut and by the other to the abdominal wall. This we knew could not be responsible for the patient's condition, so the appendix was sought for and, when found, was completely buried by adhesions and encircled the gut like a rubber band, causing the obstruction. Removal of the appendix was followed by uneventful recovery in ten days.

Case II. A. R. B., white male, age 18. Occupation, student. Patient was referred to me for examination and diagnosis. History of poor health, having been treated for hookworm, nephritis and valvular heart disease. Gave no history of acute illness of any kind. Examination of heart and kidneys revealed no trouble. Examination of feces gave no evidence of uncinariasis. Patient was pale and anaemic, complained of general lassitude, anorexia, indigestion, constipation, pulse weak and fast, temperature sometimes going as high as 100 degrees F., in afternoon. Examination of lungs negative. Abdominal examination revealed intestinal fermentation, flatulence, and slight tenderness over the appendix with deep manipulation. Diagnosis, Chronic Appendicitis, causing malnutrition and toxaemia from intestinal indigestion and constipation. Operation was refused at that time, so patient was kept in the hospital and treated by dietetic and medicinal measures for ten days, when he left for his home in South Carolina, promsing to return for operation in sixty days. Three days after his arrival at home, he was taken ill with an attack of fulminating appendicitis and was rushed to the nearest hospital for operation, the surgeon stating that his case would have been hopeless had he waited twelve hours longer. Since the operation, he has been in good health and has had none of his old symptoms.

Case III. Miss M. J., age 18, Occupation pupil nurse. History negagtive. On Aug. 18, 1910, this young lady was taken suddenly ill with severe abdominal pain and slight nausea, and a little tenderness in the right iliac region. There was no muscular rigidity, elevation of temperature or pulse. Patient was put to bed, bowels moved by enema, ice cap applied over appendix, and all food withheld for twenty-four hours. At the end of that time all symptoms had subsided except the iliac tenderness, which persisted for a week, when she was allowed to return to duty. Within two days, she was again taken sick just as before and her father was sent for. He requested that she be operated upon at once. The abdomen was opened by an incision one and a half inches long, over the outer border of the right rectus muscle and the appendix removed. It was found to be inflamed and greatly distended, almost to the point of rupturing, with a muco-purulent fluid. The patient recovered promptly and returned to duty in two weeks.

Case IV. C. N. W., white man, age 45. Occupation, cotton mill foreman. I was called to see this man on Wednesday, Feb. 1st. Found him suffering intensely with abdominal pain. There was slight nausea but no vomiting. No muscular rigidity, temperature 102 1-2, pulse 80. No tenderness on pressure at any point. He reported having

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taken a large dose of black draught, dry, the night before, five large stools resulting the next morning, and ascribed his condition to that dose of medicine. His history was negative except for operation for double inguinal hernia two years previous. Castor oil, oz.ss. was given, ice cap applied to the abdomen, and patient placed on liquid diet. On Thursday the pain continued, in spite of the cold applications and the fact that his bowels moved freely from the oil; mouth temperature was normal, but the thermometer when inserted into rectum registered 102 1-2, pulse 120; no tenderness or muscular rigidity. Pain all referred to the epigastrium. For the lack of some better name, I called it appendicitis and advised immediate operation, which was promptly refused, so the ice applications and liquid diet were continued. Friday morning found the patient still more uncomfortable and, in my absence from the city, another physician was called, who, after a rather extensive examination, told the patient that he was positive there was no trouble with the appendix because "he had rolled it between his fingers like a lead pencil and found it normal." Local applications were changed from cold to hot and the patient assured he would be all right by the next day. On Friday afternoon, I found his condition decidedly worse. Mouth temperature normal, rectal 103, pulse 130 and weak, pain increased, considerable distension, no muscular rigidiay, skin pale and clammy, features pinched and distressed. Deepest palpation over the iliac region revealed no tenderness, but there was slight tenderness over a spot the size of a silver half-dollar one inch below and to the right of the umbilicus. I again repeated my diagnosis of appendicitis and urged the man to be operated upon immediately. This he refused, stating that he did not believe he had appendicitis because he had no pain or tenderness in the region of the appendix. I then told him I could do nothing more without operation and would not come back to see him until he changed his mind. I was called again Saturday morning, the message stating that patient was ready for the operation but wished me to bring Dr. Goss in consultation, which I did. Dr. Goss agreed with me that the case lacked all of the ear marks of a typical appendicitis, but that, if it was not that he did not know what it was, and it was certainly one in which surgical interference was clearly indicated. The operation was done at eight o'clock that evening. The abdomen was opened by a three inch incision at the outer edge of the right rectus muscle and a large abscess filled with foul puss and extending from the brim of the true pelvis to its floor, was found and evacuated. Practically all of the appendix had sloughed away and several large concretions were found in the abscess cavity. Ample drainage was inserted; a second incision one and a half inches long was made in the middle line just above the symphisis pubis, and drainage placed to the bottom of the pelvis. The patient was put to bed in Fowler's position and recovered after a hard struggle of eight weeks' duration.

Case V. G. H., mulatto male, age 29 years, occupation, track hand, C. of Ga. Railway. Walked into St. ary's Hospital on the afternoon of June 26th, complaining of severe pain in abdomen and begging to be operated upon. Patient was put to bed and examined. There was no nausea or vomiting, abdominal walls relaxed, both mouth and rectal temperature and pulse rate were normal, slight tenderness over M'Burney's point. Patient looked ill. His history was negative. Present attack came on at eleven A. M., of that day. Operation was done at 10:30 P. M. Abdomen was opened by usual incision. Peripheral veins were distended with very dark blood, and the peritoneal cavity was found filled with a sero-sanguineous fluid. The appendix was greatly distended, blue in color, and its lumen filled with fluid fecal matter of intensely foul order. Removal of the appendix and closure of the abdominal wound completed the operation within twenty minutes. The patient was put to bed, had an uneventful recovery and was dismissed from the hospital in ten days.

In closing, I would like to call your attention to a class of appendicitis not referred to in the usual text-book description of the disease, i. e., that in which the lumen of the appendix is occluded by masses of desiccated fecal or other foreign matter and the organ becomes greatly distended but not inflamed. Gangrene follows and the portion of the appendix below the obstruction literally drops off. There is little if any pain or tenderness, no muscular rigidity, no elevation of temperature or pulse rate, no nausea. In fact, all of the cardinal symptoms of appendicitis are lacking until the occurrence of the rupture and the development of peritonitis. Then prompt surgical interference is necessary unless we would stand helplessly by and see our patient die. This is the class of appendicitis to which I believe our present mortality rate to be due.

THE CONSERVATION OF HEALTH

Thomas D. Coleman, A.M., M.D.

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The greatest asset of a nation is the health of its citizens. Wealth in the abstract means nothing and presupposes as its postulate man to enjoy and profit by it. Whether one admits the existence of an Omnipotent Creator and Director of the Universe, or is pleased to believe that the created world, as man has found it, is the result of an unfathomable purposive design, the conclusion is inevitable either that the world was created for man or that he is the summum bonum, the ultima thule of development. We must accept this world with its overarching firmament and the earth beneath with its changing seasons, the nights and days, its flora and fauna of land and sea, together with its vast treasuries of minerals and chemicals, as being made by a beneficent Creator for man, or that development and purposive design have prepared for him a wonderful environment.

Not man for the environment, but the environment for man.

My own study of scientific literature and the physical testimony of the world, irrespective of any religious bias, convinces me that man is either the latest and highest product of an Omnipotent Creator or that his arrival on this stupendous plan of purposive development was, for him, most opportune. Geology, like the Bible, leads us to believe that our earth, at first, was without form and void; that it was covered by water; that after a time stretches of land peered above the waters, barren of life at first, then occupied by vegetable life, then by animal life, then by man.

What happened in primitive days is still occurring now, but with less reckless selfishness on the part of the individual. When rude man lived to himself, with perhaps a mate and offspring, he had no sense of obligation other than providing for his own immediate needs; other individuals and the future were left to care for themselves. Times of want and famine were not anticipated, the sharing of surplus with his neighbor not considered, and in consequence multitudes perished.

As he developed, however, he found that he could, by drying his meats in the sun, provide against a season when game was scarce; by tilling the soil and sowing seeds that he could grow and store foods which were not obtainable in winters of want; by combining with his neighbor and his neighbor's neighbor, that all these could be done more advantageously; and that by banding together these results could not only be better accomplished, but that they could more effectually protect themselves against the destructive effects of the elements and the invasions of their common enemies.

In time the value of division of labor dawned upon human kind and they found it not only to the advantage of the individual, but of the communities of which they formed a part, for certain individuals to perfect and devote themselves to certain vocations, thus perfecting and increasing the output of the whole, thereby developing shoemakers, clothes-makers, farmers, manufacturers and even priests, physicians, law-makers and bankers. In those days individuals often sacrificed the good of the whole to their own selfish ends, with more or less greed and wanton selfishness, and, be it admitted to our discredit, the same processes go on today and with less excuse.

Viewing these in the light of distance and of centuries of enlightment, we see their errors and condemn them as we do the misdeeds of our own contemporaries against their neighbors. An enlarged mental and moral horizon forces us to condemn such practices, and we can profitably accept the subtle lesson taught in Charles Lamb's delightful essay on roast pig: "It is not necessary to burn down a neighbor's house in order to enjoy a morsel of roast pig; dig a pit, use a few faggots of wood, roast the pig, but spare the house."

It would lead us too far to speculate as to wnat extent, under what duress, a man may utilize, even for a time, what should be left to his neighbor, his children or his children's children. It is, however, plain, even to those who think little, that we have received a generous benefaction from our ancestors, and that we should not only give as much as we have received to our descendants, but more. Every man is entitled to live, but not at the expense of his neighbor or posterity. Waste must inevitably harm an individual, a household, a state or a nation.

Education, the development of moral codes the birth of religions and increasing density of populations have all conspired to teach us altruism. Man has learned that forests are purposeful; they please; they shelter; they

influence the rainfall; they furnish wood with which to fashion our homes and supply our industries; but they cannot furnish us food to live upon, as does a field of corn or grain.

If the whole earth were a forest, in an altruistic world each man should be entitled to dismantle enough of it for his maintenance, but he should not destroy beyond this that which furnishes his neighbor with changing seasons, wood to cook his food and material with which to build his home; neither should he deprive posterity of these blessings. The same applies to streams and other of nature's bountiful benefactions.

Let me repeat—the conservation of all of these is good and should be taught our children, but for what? There can be but one answer—Man. If the whole world were a veritable garden of Eden, with all its indescribable beauties of vegetable and animal life, of what use would it be without man?

And so let me repeat that, while all conservation of forest and stream and wealth must be executed by man, it must still have for its objective man. In spite of wars, pestilences, famines and man's inhumanity to man, the world's population has been reckoned at approximately 1,750,000,000 souls.

It is conceivable that primitive man was free from disease, and that if he were injured, if not mortally, nature would effect a cure; but, with the multiplication of individuals, disease has developed and mutiplied. At first disease was considered as an evidence of displeasure on the part of the deities or the Almighty, but education has taught us that it is due to our disregard and ignorance of the laws of health. Indeed, we have come to believe that the civilization of a nation may be measured by its health standards. The economic value of a forest is measured by the number of sound trees that it contains; every tree has its monetary value, and so for the human race.

Our government has seemed to go at this question backwards; it conserves its forests, its mineral resources, its lands, its streams, its animals; but man, for whom all these should be conserved, is, for the most part, neglected or left for the last consideration. Our government has its paternal care constantly directed over our streams, our forests, our mineral resources; but man, in matters of health, still lacks proper governmental supervision. It has always seemed to me remarkable that nearly all measures for the uplift of humanity, in matters of health, should have originated from the medical profession. If medical men were as black as some have painted them, they would spend their spare time in praying for epidemics rather than in preventing their development and spread.

It has been conclusively shown that in the United States approximately 1,500,000 are constantly ill with preventable diseases. Irrespective of the heartache and the disruption of the homes, with often the loss of the paternal or maternal watch, care and influence, it means a monetary loss of approximately $1,500,000,000 annually to the nation; furthermore, that large percentage of all of those who die are carried off by preventable diseases. The problem, therefore, which confronts us it: How may this fearful and, in part, needless loss be curtailed in our country? Any solution of this stupendous problem must be adapted to our form of government; for after all, that is the main source from which we may expect relief. Our country, when in its infancy like all young nations was greatly in need of recruits in every department of life. Like all enterprises, in their beginnings, qualifications could not be too closely scrutinized.

The medical profession was no exception to this; so with our latitudes of states' rights, it is no wonder that mushroom colleges of medicine sprang up in many if not all of the states.

This naturally led to the licensing of many men who were inadequately educated, and yet, in spite of this, I wish to call attention to the fact that at the present day—and to the everlasting glory of the medical profession—men can be graduated in the law and in the ministry, in the arts and in the sciences in less time than it takes to be graduated in medicine.

In addition to this, the defects of medical training were pointed out, not by our government or the laity, but by the medical profession itself.

No relief being suggested by the states or the nation, the American Medical Association, an organization supported by the subscription of it smembers, took the matter up, as did Mr. Rockefeller and Mr. Carnegie, two philanthropists whose names will never die, with the result that now it requires graduation from a high school and four years of training in a medical college before a man is licensed to practice medicine and hold in his keeping the life of his fellow-beings. Previously to, along with and subsequent to this action, numerous states established State Boards of Medical Examiners to examine applicants to practice in their borders, all

having for their object the protection of the public against incompetent practitioners.

I may add parenthetically that these have for the most part, in evry state, missed the game for which they were intended, for in every state law there seem to be flaws or loopholes through which the quack, the osteopath, the charlatan and the pretender may slip. Unfortunately, the medical profession is in the condition of the English jackey who was being whipped with a cat-o'-nine tails. In the midst of the process the man who was applying the "cat" said to him: "What are you laughing at?" "Why," he replied, "you are whipping the wrong fellow."

But to return to our problem: If we had any Augean stables we have cleaned them, and it remains for the public to support us, as it surely will.

There is not a man in the sound of my voice, I feel sure, who would not place implicit confidence in any serious statement that his family physician might make to him. Then why not accept the conclusions arrived at by these men collectively?

Charon's passage money—the death toll—is exacted largely by the preventable diseases. Smallpox, cholera and yellow fever have been banished as scourges from civilized communities, and by whom? The men whose private interests might have been fostered by the continuance of these epidemics that carried off thousands and tens of thousands Even while this is being penned we have assurance of the discovery of a cure for syphilis, a loathsome disease, formerly killing thousands, and leaving its blight upon countless innocents, which can now be cured by one, or, at most, two or more injections of a recently discovered remedy. The problems which still confront the medical profession of America are still appalling. Malaria is prevalent over a large territory and cannot be exterminated for many years to come, perhaps never; our streams become polluted and carry typhoid fever from one state to another; tuberculosis, the great white plague, stalks from one border line to the other, recognizing no states' rights or territorial borders; pellagra touches with its blight the high and the low; and the hook-worm, though threatened with extermination owing to the generous benefaction of one of the world's greatest philanthropists, still, like the wind, wanders whithersoever it listeth.

What can be done to stamp out these and other human plagues? There can be but one remedy—a National Department of Health.

In diseases which can travel from state to state, in diseases which can jeopardize the welfare of a commonwealth as a whole, state lines should not be considered. As a physician, as a descendant of a general in the War of the Revolution and of the Mexican War, as the son of an officer in the Lost Cause, as a Southerner throughout many generations in blood and sentiment, I am impelled, as any unprejudiced man should be, to accede to the axiom in the Scriptures: "It is better to pluck out an offending member than that the whole body should perish."

I do not wish here to be understood as decrying the value of municipal, county and state boards of health. They are phases in the development of a perfected whole and should always exist; they subserve in greater or less degree the good of the communities in which they operate; but they should hold the same relation to a National Department of Health that our cities, counties and states do in our national form of government. In this way only con the interests of all be properly conserved.

So long as a city or county can control its health problems, the state does not essay to interfere; but when they, through inability, willfulness or ignorance, lose such control, then the state reserves the right to interfere, or, if you please, assist and direct.

This must of necessity be the province of a National Department of Health. State laws being at variance and legislators under one sort of influence or another, it is better to have sanitary laws enacted which can be enforced, irrespective of state and territorial lines.

As a nation we should be a unit in all things that partain to the nation. We should know "No North, no South, no East, no West. Our Union forever, one and inseparable."

The only feasible way in which this can be accomplished is by yielding up our sentimental ideas of states' rights, which are and always should be a myth in things political affecting the nation as a whole as well as things medical.

The Committee of One Hundred has formulated sixteen succint reasons why a Department of Health should be created. They are:

1. To stop the spread of typhoid fever through drinking the sewage-polluted water of interstate streams.

2. To enforce adequate quarantine regulations so as to keep out of the country plague and other similar pestilences.

3. To supervise interstate common carriers, in so far as, without such supervision,

they prove a menace to the health of the traveling public.

4. To have a central organizzation of such dignity and importance that departments of health of states and cities will seek its co-operation and will pay heed to its advice.

5. To influence health authorities, state and municipal, to enact reform legislation in relation to health matters.

6. To act as a clearing-house of state and local health regulations and to codify such regulations.

7. To draw up a model scheme of sanitary legislation for the assistance of state and municipal health officers.

8. To gather accurate data on all questions of sanitation throughout the United States.

9. To establish the chief causes of preventable diseases and unnecessary ill-health.

10. To study conditions and causes of disease recurring in different parts of the United States.

11. To correllate and assist investigations carried on in many separate and unrelated biological and pathological federal, state and private laboratories.

12. To consolidate and co-ordinate the many separate government bureaus now engaged in independent health work.

13. To effect economies in the administration of these bureaus.

14. To publish and distribute throughout the country bulletins in relation to human health.

15. To apply our existing knowledge of hygiene to our living conditions.

16. Te reduce the death rate.

The establishment of a National Department of Public Health has received endorsement in the recent national platforms of both the Democratic and Republican parties, the American Association for the Advancement of Science, the American Medical Association and the American Public Health Association, also the conference of State and Territorial Boards of Health and numerous other organizations, and I trust that before this meeting closes we shall do ourselves the credit of voting it our unanimous endorsement.

City Hospital Planned—A movement has been inaugurated by the citizens of Dublin for the establishment of a hospital in that city. James M. Finn has been appointed chairman and R. M. Martin, secretary of the committee on the hospital enterprise.

A WARNING CONCERNING THE USE OF SALVARSAN.

(By W. C. Slusher, M.D., Bluefield, W. Va. and E. B. Burchell, M.D., New York, in New Yory Medical Journal, July 15, 1911.

After hearing much said concerning the probable germicide powers of salvarsan, it occurred to us that some experiments tending to settle this moot question would be interesting, and the following experiments were carried out in the Eno laboratory of the New York Eye and Ear Infirmary:

"Four cubic centimetres of a one per cent. solution of salvarsan in sterile water were added to a pure culture of staphylococci of twenty-four hours' growth on plain agar, and then after intervals of five, ten, twenty and fifty minutes, a loopful of this mixture of staphylococci in salvarsan solution was transferred to slants of plain agar, and incubated for twenty-four hours at 37 degrees C. On the tubes exposed for five, ten and twenty minutes, the colonies were so numerous they could not be counted. On one exposed fifty minutes forty-eight colonies were found. Then a twenty-four hour pure culture of staphylococci was similarly treated with 4 c. c. salvarsan solution prepared for injection by the alkaline (Lesser's) method, and after a repetition of the procedure, it was found that all four slants contained so many colonies they could not be counted. On a control tude, inoculated at the same time without being subjected to alkaline solution of salvarsan, the growth was not so luxuriant, which proved to us that the alkaline solution of salvarsan favored, rather than retarded, the growth of bacteria. At the same time a pure culture of staphylococci was subjected to iodipin (ten per cent. iodine in oil of sesame, Merck), in which case the growth on all four tubes of agar was as profuse, if not more so, than the tubes submitted to the alkaline solution of salvarsan."

It is a fact that physicians aften go to their druggist to have salvarsan prepared for administration, or prepare it themselves in the office and administer with little or no regard for asepsis, believing that salvarsan, or the medium in which it is administered, is germicidal. Our experience in administration of salvarsan, after thorough sterilization of everything coming in contact with the patient, and the result of the experiment leads us to the belief that the cases of necrosis an dinfection are due to carelessness or disregard of asepsis.

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NEWS: Our readers are requested to send us items of news of a medical nature, also **marked** copies of local newspapers containing matters of interest to physicians. We shall be glad to know the name of the sender in every instance.

A NON-PARTISAN BOARD OF EXAMINERS.

The coming meeting of the regular Board of Medical Examiners to be held in Atlanta, October 10th, reminds us of the practical uselessness of such a Board. This seems on its face, a rather broad statement, but if the readers of the Journal will investigate the records of the applicants for license in the State of Georgia and find instances of as many as one dozen applicants who have been rejected by the Regular Board prior to 1910, and who are not now practicing under legal licensure, we will acknowledge ourselves in error. This state of affairs exists as a result of our deplorably poor laws governing medical practice. Such a condition cannot be remedied under existing laws. The present plan of so called "Sectarian" Boards is responsible, and just so long as these different boards exist, the people will suffer from the incompetent doctor of all schools.

At present, if a physician applies to the Regular Board of Examiners, and is refused a license, he immediately, or as soon thereafter as possible, applies to the Eclectic or Homeopathic Board, and is, as a rule, given a legal right to practice upon a defenseless and unsuspecting public who know that there are laws supposed to protect them from ignorant charlatans, and naturally presume that they are being protected.

The Editor knows personally a young man who followed the course outlined above, and practiced for two years under an eclectic license, but who, becoming ashamed of his position as a regular graduate with an eclectic license, has this year matriculated again in a regular medical college, with the purpose of equipping himself sufficiently well to enable him to pass the regular board.

It is a well known and acknowledged fact that partisan Boards are inefficient, and those Boards of the less numerous schools are tempted to pass their graduates, in order, as one of their members remarked to the Editor, to "even up" as nearly as possible this difference in numbers.

Not infrequently students of regular medical colleges who have failed in their previous studies, will take all, or as is more often the case, only a part of their senior year at an eclectic school in order to graduate, and feel sure of passing the Eclectic Board. We doubt if there is a single reader of this article but that knows of just such instances. The laxity of the examinations held by the Eclectic Board is shown plainly by the official standing of a school with Eclectic physicians themselves admit is not up to the standard, and yet the percentage of licensed graduates of this school is proportionately higher than any regular school in the State. Other schools of like character are being established, and it will be only a matter of a few years at most until Georgia will become the dumping ground for every medical derelict who can pay for a few months attendance at some such institution, and come up for license before a partisan Board of Examiners. The recent examinations held in Pennsylvani , show conclusively the useless-

ness of any Board if the examinations are parcelled out in the usual way. Of the forty-one candidates before the Eclectic Board, only seven were graduates of Eclectic colleges. Two were graduates of nondescript institutions, and thirty-two were gradutes of regular colleges; twenty-five from one school. During the last three and one-half years, the Eclectic Board of Pennsylvania has not rejected a single applicant who graduated from an eclectic school. Of one hundred and seventeen graduates of other schools coming before the eclectic board, only seven failed. We will not go so far as to say that conditions in Georgia are so bad as they are in Pennsylvania, but they are so closely alike that it behooves reputable physicians of all schools to bestir themselves and prevent a state of affairs that will be even more deplorable.

What is the remedy? A single non-partisan board composed of representatives of all schools of practice, and nominated by the state medical associations of their respective schools.

A representative of the Eclectic school might for example take the department of anatomy and of practice for his own school. A Homeopath might take chemistry and practice for his own school, and in that way no conflict could occur, and all applicants would be benefitted thereby, and the public protected from a horde of incompetents from all schools of practice.

In this connection we would likewise urge uniformity of examinations in all states and uniform reciprocity, as well as a modified examination for physicians who have had years of practice.

The present method of requiring a physisian who graduated 20 or 30 years ago to stand the identical technical examination required of a recent graduate, is unjust. The practical experience of the older physician should be taken into consideration. In such examinations, the primary branches should be omitted, and practical diagnosis upon the patient substituted therefor. Then the old doctor with his board experience would have his inning.

Rigidity of the muscles in the flank on deep palpation is as valuable a diagnostic sign as is rigidity of the anterior abdominal muscles. In the presence of a urinary disturbance (e. g., anuria, pyuria, hematuria) unilaterial tenderness and rigidity in the loin are presumptive evidence of affection of the kidney on that side—Amer. Jour. of Surgery.

TYPHOID FEVER.

Of all of the infectious diseases prevalent in the United States, typhoid fever is one of the most common and fatal. As a result of its ravages a vast amount of invalidism, suffering and financial loss is brought about each year, and, although we possess no accurate statistics, it is known that a frightful mortality annually results from it in this county. It has for some time been recognized that typhoid fever is among the most preventable of all diseases, and if our people would bestir themselves and carry out the comparatively simples rules that are necessary for accomplishing this, the affection would, in a short time practically cease to exist among us.

Character of the Disease: Typhoid fever, enteric fever, or abdominal typhus is an infectious disease believed to be caused by a specific germ known as the Bacillus typhosus which is a low form of vegetable life belonging to the group of bacteria.

Course of the Disease: Typhoid fever develops, as a rule, quite slowly, the first symptoms being loss of appetite, headache, and a marked fatigue on slight exertion. These symptoms gradually grow worse, fever develops, and the patient oftentimes suffers from chilly sensations; the temperature gradually rises, and in the course of from a few days to a week reaches a height of 102° 103° 104° or 105° F. In many cases no symptoms exist that indicate trouble with the bowels, but in the severe forms of the disease dirrhoea generally comes on during the first week and continues throughout the course of the disease.

During the second week the symptoms above detailed continue, becoming often more severe, and there develops great nervousness and delirium. About this time there are frequently observed over the chest, abdomen and thighs, minute reddish spots resembling flea-bites; these spots last for a few days and then pass away and are followed by a fresh crop in other situations. During this period of the disease inflammation of the bronchial tubes frequently comes on, and now and then pneumonia develops. Bleeding from the bowels is an occasional symptom in the second week of the disease, and is highly characteristic of it.

When the disease follows a normal course, the symptoms during the third week begin gradually to abate; the fever lessens, the diarrhoea becomes better, the nervous symptoms and delirium diminish, and the patient,

though much emaciated, gradually returns to a normal condition.

Unfortunately, however, the disease does not always pursue this favorable course, for, in quite a proportion of instances, the symptoms increase in severity during the second or third week, the patient becomes profoundly prostrated, the delirium deepens and death occurs. The hemorrhage from the bowels, in some instances, is so severe that death is produced even in comparatively early stages of the affection.

In many instances, through indiscretion, usually as a result of eating solid foods, patients apparently on the road to rapid recovery relapse, and the disease repeats the course already detailed.

It is of importance to remember that now and then so-called walking cases of typhoid fever occur, the disease in these instances being characterized by the fact that the symptoms are so slight that the sufferer does not feel it necessary to go to bed. However, in these mild cases, fatal hemorrhage from the bowels is as frequent as in the severer types, and as a consequence the patient should receive careful attention. Moreover, it is of importance to remember that from this mild form of the affection the most maligant varieties of the disease may be contracted.

The mortality in typhoid fever varies from five to twenty per cent., depending upon the character of the disease and the nature of the nursing and treatment that the patient receives.

Treatment of the Disease: As soon as the symptoms already detailed appear, a physician should be called and his directions faithfully and carefully followed out. Nothing in this disease is of more importance than careful nursing, and it is absolutely necessary that the patient receive proper food.

Modes of Infection: It is clear that typhoid fever is the result of the entrance into the body of some minute form of germ life, whether this be the bacterium generally supposed to induce the disease or not the contagion is beyond question a living something which multiplies with great rapidity under proper conditions, and, escaping from the bodies of those infected with the disease, in one way or another, reaches other individuals. It is beyond question true that the virus passes from the body of those infected by means of the urine and feces, and it is likely that the secretions from the mouth and nose frequently contain the germs that cause the fever.

As the germs are certainly extraordinarily minute, a very small amount of any of these secretions might produce the disease in healthy individuals if it were to get into their bodies through water, milk or any uncooked food, or if it were to find lodgment about the nose or mouth, or get upon the hands of other persons. It should also be remembered that the virus may easily get upon cooking-utensils, drinking-cups, bed-linen, and other articles with which we are constantly brought into close contact, and that the disease might be transmitted in this way. It is also true that the malady may be carried from place to place by insects, particularly flies; the latter may readily get enough infectious material upon their legs in various ways, and then, crawing over the food, leave the deadly poison deposited upon it.

Isolation of Patients: Wherever possible, patients with typhoid fever should be completely isolated, since, if this is not done, other members of the family are almost sure to contract the malady—a result which almost every one has seen who has had any experience with the disease. Wherever possible patients should be sent to a hospital, but where this cannot be done they should be placed in an outhouse, if practicable, or, where this is not possible, in an isolated room, which should be thoroughly disinfected after the patient's recovery. No one should visit a typhoid fever patient, except when compelled to do so, and we should be particularly careful to precent children from coming in contact with them, as it has been shown that they contract the disease much more readily than grown people. It is also of importance that persons should not, unless compelled, sit for any length of time in the room with a person suffering from typhoid fever, and, above all, under no circumstances should cooking and eating be done in the sick chamber.

The room in which the patient is placed should be furnished only with those things absolutely necessary, and it is particularly desirable that carpets and curtains should be removed. It is well to wash the floor each day with some antiseptic solution.

Those persons who come in contact with typhoid fever should wear outer clothing which can be easily washed and boiled. After touching the patient, or any of his clothing, the hands should be at once thoroughly scrubbed in an antiseptic solution. Of course

under no circumstances, should the nurse eat or drink from the same vessels that the patient does.

Removal of Evacuations: None of the exerection from persons afflicted with typhoid fever should ever be emptied until thoroughly disinfected, and under no circumstances should these be poured out in the neighborhood of springs or wells. Towels, handkerchiefs, and clothing that come in contact with the patient should be thoroughly disinfected before being sent to the laundry. It should also be remembered that the water in which typhoid fever patients are bathed necessarily becomes infected, and this should always be thoroughly disinfected before being emptied.

These precautions should be carried out for some time after the patient has recovered as it is well known that persons, under such circumstances, for some time frequently contain the poison in their evacuations.

Disinfection: All clothing that comes in contact with the typhoid fever patient should be thoroughly disinfected. This is best accomplished by throughly boiling, but in cases where this can not be at once carried out it is advisable to use some chemical antiseptic; of these, perhaps the best is creo-carboline, which may be employed in a 1-500 solution in water; where this solution is not obtainable, a 5 per cent. solution of carbolic acid in water, or a 1-100 aqueous solution of corrosive sublimate may be employed. The floors should be daily washed with one of these solutions.

The excretions from the patient should be placed in a 1-500 creo-carboline solution, or in a mixture prepared by adding four heaping tablespoonfuls of fresh pulverized chloride of lime to a quart of water. Either of these solutions are efficient when allowed to act for half an hour.

The water in which the patient is bathed should likewise be disinfected, either by the addition of an ounce of creo-carboline, or four tablespoonfuls of chloride of lime; disinfection will be brought about in half an hour, when these directions are followed.

The hands of those coming in contact with the patient should likewise be thoroughly disinfected, either with a solution of carbolic acid, corrosive sublimate, or creo-carboline, in the strength employed in disinfecting the evacuations.

After the patient recovers, the room should be disinfected with formaldehyde gas obtained from the substance known as "formalin." We would only direct attention to the fact that by a new process the gas may be obtained from the formalin without the use of heat in the following manner: When everything is ready, and the room properly sealed, thirteen ounces of permanganate of potash to each quart of formalin are placed in a large vessel, the room being closed immediately after the two substances are put together; it is important that the permanganate be placed in the vessel first. When this method is employed a quart of formalin should be used to each one thousand cubic feet of air-space in the room. As the gas, by this process, comes off with great rapidity, it is not necessary to keep the room closed so long as is the case when the older method is employed—experiments having shown that complete disinfection is brought about in four hours. This method is to be advised for the reasons that it acts more quickly than the older one, and there is never danger of fire.

In cases where houses are too open to permit of disinfection by means of gas, the sick chamber should be thoroughly washed with one of the antiseptics employed for sterilizing the clothing.—Bulletin of the Georgia State Board of Health.

INFLAMMATORY TUMORS PRODUCING INTESTINAL OBSTRUCTION.

A. Primrose, Toronto (Interstate Medical Journal, September), reports 4 cases of abdominal tumor of inflammatory origin, three of which probably had origin from a chronically infected appendix or sigmoid diverticulum, the fourth developing as the result of postpartum infection. The first case was in a man of 47 with almost complete bowel obstruction, who had a mass filling the pelvis and extending into the left iliac fossa, which was diagnosed rectal carcinoma. In opening the abdomen, the appendix was found imbedded in the mass. This was removed and an inguinal colostomy attempted but found impossible on account of a short mesentery. The bowel was then divided transversely and a Paul's tube secured in each end. Three weeks later a portion of the mass was removed through the rectum and pronounced purely inflammatory by the pathologist. Three months later the tumor had largely disappeared and the rectum which before barely allowed the passage of a No. 10 E. catheter now easily admitted a bougie one inch in diameter. An end to end anastamosis was done at the seat of the colostomy and the patient was restored to perfect

health. In the second case, a girl of 22, the tumor resembled sarcoma arising from the left iliac bone. The appendix had been removed for acute infection five months before. The tumor was separated from the ilium and found to involve the sigmoid. A portion of the mass was removed and reported by the pathologist to consist solely of inflammatory tissue. Following operation, a fecal fistula developed which closed spontaneously. The tumor slowly disappeared and four months later the patient was perfectly well. The third case, a woman of forty-five, had in the previous year and a half, six attacks of acute pelvic peritonitis. There was almost complete bowel obstruction. A mass was found in Douglas' pouch in which was imbedded the appendix and a loop of small bowel acutely kinked. The appendix was removed, and a much injured portion of the small intestine resected. Complete recovery ensued. In the fourth case the mass developed following a puerperal streptococcus septicemia. Intestinal obstruction occurred and necessitated two operations. Obstruction again developing, a Paul's tube was inserted in the ileum. Later the fistula was closed by plastic operation and recovery followed.

SOME GENERAL CONSIDERATIONS IN REGARD TO RIGHT HYPOCHONDRIAC PAIN.

The diagnostic study of a case from the standpoint of the chief complaint or presenting symptom, says J. D. Heard, Pittsburg (Interstate Medical Journal, September), has the disadvantage that one is depending upon a subjective manifestation, the expression of which is modified by the character of the patient. By a careful study of the patient's psyche, pitfalls may be avoided, and information received from persons other than the patient is often of great value. Cases in which pain persists after operation which apparently removes the cause, as after operation for gall-tones, are well known. Such "attention pain" acording to Dana is real pain, although the sensory stimuli have dropped to normal; but, owing to a lowered threshold of consciousness, ordinary stimuli now pass within the region of cognition and are registered as pain. On the other hand, pain is often salutary, bringing the sufferer to the proper medical attention, and where the symptom is absent as it so often is in the earlier stages of malignant disease of the kidney, the patient either does not come under observation or refuses surgical aid. Again pain is often absent in severe conditions in which one would naturally expect extreme physical suffering to be a marked and constant feature. Marked bodily discomfort, an overshadowing pain elsewhere, or the presence of the subjective symptoms of circulatory breakdown, may make such local manifestations as those caused by even an enormously distended and congested liver appear of a trivial nature, so that it may be entirely overlooked in the anamnesis. The usual cause of pain in the right hypochondrium is gall-stones, but the author begs us to remember that the possible causes of pain in this region are legion, as the work of Heard has so well demonstrated. In this connection is to be especially noted the pain in the right hypochondrium due to some pathogenic process in the pleural cavity at the base of the lungs.

RARE CASE OF ANOSMIA.

Dr. Safranck, in Berliner klin. Woch., June 5, 1911, sums up his case as follows: A girl aged fourteen years, with an acquired leucoderma, began to lose her sense of smell, which at the end of two years was entirely absent. The condition was bilateral and sense of taste for aromaic substances was also lost. Rhinological and neurological examination failed to reveal the nature of the disorder. Hysteria could be excluded, as could also local or central organic disease. The author found two similar cases in the literature in which there was a suspicion that the association of anosmia and absence of cutaneous pigment (leucoderma) was not a coincidence. Such an association seems however, to have escaped the attention of dermatologists.

ECTOPIC PREGNANCY.

Dr. George H. Belleray, of Paterson, in discussing Dr. Rabinowitz's paper on this subject at the meeting of the New York Academy of Medicine, April 27, 1911, cited these cases:

One occurred in the wife of a physician. The diagnosis was not at once made. However, a colleague of his operated before rupture had taken place and the patient made a good recovery. Two years later this woman skipped a period and had some pain. The same colleague diagnosed an ectopic occur-

ring on the opposite side. She was again operated on and made a good recovery.

Dr. Balleray felt that the adnexa on the opposite side should not be removed unless they were in an unhealthy condition, and showed marked evidences of disease. He recalled the case of a young woman, unmarried, who had skipped one period. One week later she took nine grains of quinine as an abortifacient. The day following she had severe pain and went into collapse. The abdomen was opened and much free blood found; a rupture had occurred at the isthmus. The ovary and tube on the other side were not removed.

TESTING VIABILITY OF STRANGULATED INTESTINE.

Dr. S. C. Plummer, of Chicago, report this case in Surgery, Gynecology and Obstetrics, Chicago, June, 1911:

A recent case in which he operated for strangulated hernia suggested to Plummer a procedure of encouraging the return of the circulation in the strangulated loop. Here was an intestine whose viability was questionable. It was highly desirable that it be replaced, if this could be safely done. Plummer accordingly applied hot compresses, wet with normal salt solution, for fifteen minutes. Not only was there no improvement in the circulation of the parts which had been strangulated, but the adjacent normal intestine was becoming edematous and of a darker red color than before. Realizing that it was the traction which he was making that interfered with the circulation, Plummer temporarily reduced the affected parts, at the same time delivering some of the adjacent intestine, so that he could again withdraw the affected parts for inspection. After allowing the previously strangulated parts to remain in the abdominal cavity three minutes, he withdrew them. The change was striking. All swelling had left the intestine, the color was normal and the furrows at the two constricted points could scarcely be seen. All that was left of the evidences of circulatory disturbance was an area of venous stasis, one inch long and one-quarter of an inch wide, on one side of the mesentery, close to the bowel. The hernia contents were at once reduced for the second time, this time permanently, and the operation completed, the patient making an uneventful recovery. Plummer recommends the further trial of this procedure of temporary reduction.

THE TREATMENT OF BACILLARY DISENTERY.

F. S. Meara, New York (Interstate Medical Journal, September), in discussing the treatment of dysentery limits himself to that type produced by the bacillus (or group of bacilli) spoken of as the bacillus dysenteriae. Rest in bed which takes away most of the stimulus to increased peristalsis, is desirable in all cases, though in the milder cases the patient will often not accede to such plan. In the more severe cases, however, this becomes imperative, and special stress is laid by the author upon the selection and arrangement of the sick-room and bed. Milk meets the dietary requirements better than any other food. The writer's routine practice has been to put the patient on a milk diet, ordering the milk boiled and given every two hours, the patient to take what he will of 8 ounces. When the temperature disappears and the stools have lost their diarrheal character, barley jelly and thoroughly boiled rice, and later toast, then egg, —and gradually the resumption of normal diet. Water should be given freely and all food must be given warm. A dose of castor oil, from 1-2 to 1 ounce is especially recommended at the onset of the trouble. Following this the author has found the following prescription especially gratifying probably due to the ol. ricini:

R Tr. opii deodorati.....1.
Salol 2.50
Olei ricini .....10.
M. et Div in capsule No. XV.
S. One every 2 hours.

For the colicky pains hot fomentations are often of value. Comfort may also be afforded by warm rectal irrigation at 100°—105° F. of physioligical salt solution. About 2 quarts may be used at a time, in some cases even more. The irrigation may be followed by an astringent, the best being silver nitrate. It should be used in increasing strengths, 1 to 2,000 at first and increasing up to 1 to 500. If the solution of silver gives great pain it is too strong and may be neutralized by salt solution. The treatment must be intermitted occasionally to let the mucosa recover from any possible irritation by the silver. At times the chronicity of the disease may be due to the irritation these very measures keep up and a cessation of local measures is followed by rapid recovery. If the tenesmus is very severe the following supository is recommended:

R Opii pulveris.....gr. 1
Extr bellodonnae fol .....gr. ¼
Olei theobromatis .....q. s.

When the pain is too great to be relieved by these, morphine hypodermically has to be used. For the diarrhea the author relies upon opium rather than bismuth, for which he has slight regard. The opium need rarely be used in greater dosage than one drop of the tincture every two hours. In convalescence from severe cases much too little use is made of carbohydrates in the dietary. Barley, rice, farina, bread and butter, and cereal soups should all be used. Beef, mutton and chicken and the purees of the vegetables may also be allowed. Under-nutrition is to be carefully avoided.

COLIC AND CHOLECYSTITIS WITHOUT GALL-STONES.

Dr. S. Colieri, in Deutsche med. Woch., reports a case in which hemorrhages in the gall-bladder induced typical gall-stone colics, although there were no concrements in the bile passages. The patient was a girl of 20, who was convalescing from typhoid when the first colic was experienced, accompanied by signs of cholecystitis. The colics recurred once or twice a month, and in the fifth month a laparotomy revealed an ulcerative hemorrhagic affection of the mucosa of the gall-bladder. The efforts of the gall-bladder to expel the accumulated blood had evidently been the cause of the colics, as was confirmed by observation of a recurring attack of the kind during convalescence from the operation. The fistula into the gall-bladder was kept open for a time to permit complete healing of the lesions, which had evidently been persisting since the typhoid fever, but the patient was finally entirely cured by the end of three months.

The more money The Journal of the Medical Association of Georgia makes out of its advertisements the less it costs the State Association to run the paper. This means that every member of the State Association has an interest in the advertising columns. If one business firm advertises and another does not, patronize the one that does. It is money in **your** pocket.

Sudden anuria may be the first symptom of a carcinoma of the cervix in an apparently healthy woman.

BOOK REVIEW.

DORLAND'S AMERICAN ILLUSTRATED MEDICAL DICTIONARY.

The New (6th) Edition Revised.

Dorland's American Illustrated Medical Dictionary. A new and complete dictionary of terms used in Medicine, Surgery, Dentistry, Pharmacy, Chemistry, Veterinary Medicine, Nursing, Biology, and kindred branches; with new and elaborate tables. Sixth Revised Edition. Edited by W. A. Newman Dorland, M.D. Large octavo of 986 pages, with 323 illustrations, 119 in colors. Containing over 7,000 more terms than the previous edition. Philadelphia and London: W. B. Saunders Company, 1911. Flexible Leather, $4.50 net; thumb indexed $5.00 net.

This dictionary while smaller than a great many others is sufficiently comprehensive for all practical purposes. A number of new words are found not included in former editions, or in others works. It furnishes a correct guide to capitalization, capital letters being used for proper names only. It gives the pronunciation of every word, instead of the accent only, stress being laid upon the derivation of words, thereby making etymology a feature of the work. It is highly important that in a dictionary ease of consultation be considered. In this work every word has a separate paragraph, making it easy to find a word quickly. Phrases are always defined under the nouns.

The medical biographies; anatomic, dosage and therapeutic tables are comprehensive, and especially designed for quick reference.

The extremely flexible binding is a very convenient feature.

STRUMPELL'S TEXT BOOK OF MEDICINE.

D. Appleton & Co., New York. Two Vols. pp 1,600. Price $12.00

To review the fourth editor of Strumpell's Text Book of Medicine, edited by Drs. H. F. Vickery and P. C. Knapp, which comes to us from the press of D. Appleton & Co., is like greeting an old friend who returns after an absence of several years bigger, stronger, and wiser than ever before. Those of us who have been in the practice of medicine for more than a decade have been accustomed to hold the old editions of Strumpell's work in high esteem, and this new edition shows no deterioration from the high standard which it has always attained

in the past. Particularly to be commended is the relatively large amount of illuminating editorial comment and interpolation, signed always with the initials of the Editor. Particularly gratifying is the insistance upon a proper correlation of the results of clinical examination and study as compared with purely laboratory research; a point which is often lost sight of in the newer works upon medicine; many of which seem to us to lay disproportionate stress upon laboratory investigation, and to lose sight of the all important fact that laboratory studies, no matter how careful or how accurate, are at best only an adjunct to the painstaking study of the phemomena of disease manifested at the bedside. A much larger amount of space is given in this new edition to diseases of the nervous system, and particularly to the commoner classes of mental alienation, than is customary in works of this sort, and this seems to us to be a distinct improvement upon any previous edition of this work.

The more recent diagnostic procedures with regard to Tuberculosis, Diseases of the Blood, etc., are placed before the writer in an accurate and comprehensive manner, and the radiographs of abnormal intra-thoracic conditions are particularly good. The press work is thoroughly satisfactory, and taken all in all this new edition of a standard authority may safely be trusted to make for itself a place of usefulness in the working library of every internist and general practitioner. E. E. M.

CLYNICAL SYMPTOMOTOLOGY, WITH SPECIAL REFERENCE TO LIFE THREATENING SYMPTOMS AND THEIR TREATMENT.

PICK AND HECHT.

D. Appleton & Co.

This seems to be the best that we have, so far examined of a rather regrettable class of medical books, in which the object is opportunity to provide for the busy and the thoughtless a short cut to therapeutic success. The most cogent criticism that may be made of a book which avows itself to be "intended chiefly for practical purposes" is that it is impractical. No one who has a patient suffering from a "life threatening symptom" can rush to a text book, however compendious, and hope to discover a sure remedy. It will of course be rather by arriving at the pathogenesis of the symptoms through a series of examinations and considerations that he will be able to plan a successful treatment.

The authors have written best where they have expressed themselves out of their own conviction as derived from experience or study. As in so many books on therapeutics, like most indeed, the text is disfigured by the introductions of many plans of treatment cited from authorities who often diverge widely in their conceptions. The chapters, however, dealing with clinical pathology are in the main excellent reading matter.

It is unfortunate that the translator, who has succeeded in retaining rather fewer German idioms than are usual in a medical translation, could not have rendered the numerous dietitic programs offered into menus consistent with American habits and cookery. A breakfast order of "scraped raw beef with anchovies and half a glass of milk" would not commend a Georgia physician to his diarrhoeic patient as a man of judgment.

On the whole the book is useful and will doubtless be taken from the shelves aftener than many that are conceived on more logical lines. W. H.

THE TREATMENT OF FRACTURES.

The New (7th) Edition, Enlarged.

The Treatment of Fractures: With Notes Upon a Few Common Dislocations. By Chas. L. Scudder, M.D., Surgeon to the Massachusetts General Hospital. Seventh Edition, Revised and Enlarged. Octavo volume of 708 pages, with 990 original illustrations. Philadelphia and London: W. B. Saunders Company, 1911. Polished Buckram, $6.00 net; half Morocco, $7.50 net.

We have received from the press of W. B. Saunders Company the seventh edition of Scudder's masterly work, "The Treatment of Fractures." This edition has been thoroughly revised and brought up to date by the addition of over one hundred new illustrations and also several new chapters; notably one on the operative treatment of fractures.

The author keeps in mind the original purpose of the work—the presentation in concise and illustrated form the most efficient methods of treating the common fractures of bones.

Important new material has been added, particularly in connection with the following subjects: Fractures of the skull; fractures of the spine; excision of the shoulder joint;

damage to the musculo-spiral nerve; treatment of old fractures.

Great emphasis is laid upon the necessity for frequent and repeated inspection of a fracture after it has been apparently reduced.

Taking into consideration the book-making as well as the subject matter, it is probably no exaggeration to say that Dr. Scudder's work is the best American text-book dealing with that branch of surgery of which it treats. H. M.

MARIE FEODOROVNA PRIZE COMPETITION.

To be Held in Conjunction with the Ninth International Red Cross Conference, 1912.

Chairman Exhibition Committee Major Chas. Lynch, Medical Corps U. S. A, Washington, D. C.

Subjects for Competition.

1. Organization of the methods of evacuation of the wounded on the battlefield, comprising as complete an economy as possible in litter bearers.

2. Portable (surgeons) washstands for war.

3. Methods of packing dressings at the aid stations and in the ambulances.

4. Wheeled stretchers.

5. Carriage of stretcher on mule-back.

6. Folding stretcher easily portable.

7. Transport of the wounded between war vessels, hospital ships, and the coast.

8. The best method of heating railroad cars by a system independent of steam from the locomotive.

9. The best model of a portable Roentgen apparatus, permitting utilization of X-rays on the battlefield and at first aid stations.

Prizes.

1 First Prize of 6,000 roubles (approximately $3,000).

2 Second Prizes of 3,000 roubles (approximately $1,500) each.

6 Third Prizes of 1,000 roubles, (approximately $500) each.

When and Where to be Awarded

Inventions entered in this competition are to be displayed at an exhibition to be held on the occasion of the Ninth International Red Cross Conference at Washington, D. C., May 7-17, 1912.

All persons intending to compete for these prizes must forward to the Chairman of the Exhibition Committee, at the above address on or before December 31, 1911, a statement of such intention, giving the number of cubic feet which will be required for the exhibition of their inventions.

Articles entered in this competition must be received, carriage prepaid, at Washington, D. C., on or before April 15, 1912.

Full particulars and conditions as to delivery and removal will be supplied in good time to inventors who give notice of their intention to compete.

Further information, if desired, may be obtained from the Chairman of the Exhibition Committee.

Statutes Governing the Competition.

1. The International Fund of the Red Cross "Empress Marie Feodorovna" was established for the purpose of awarding prizes to the originators of the best inventions for relieving the suffering of wounded and sick soldiers.

2. The original capital of the Fund consists of 100,000 roubles, which Her Majesty, Empress Marie Feodorovna, August Protectress of the Russian Red Cross Society, has deigned to donate for this purpose.

3. The principal of the Fund remains intact.

4. The interest on the Fund is available for prizes to be awarded to the originators of the best inventions for the discovery and rescue of the wounded and sick on the battlefield, the quickest and least painful means of their transportation to the nearest stations for medical aid and their subsequent evacuation as well as, in general, for the best means and methods of relief for the wounded and sick on the battlefield and at the rear.

5. The charge of the Fund and its administration belong to the General Direction of the Russian Red Cross Society.

6. The date of the distribution of prizes, their destination (within the limits of purposes mentioned in Article 4), the number and amount of prizes, as well as the other details of the competition shall be fixed by each International Conference of the Red Cross for the following Conference. The interval between two successive awards of prizes must not be less than five years.

7. Only new inventions will be admitted for the competition of prizes, namely those, the description of which had not been published prior to or at the competition which

preceded the one to which the invention is presented.

8. Preference in the awarding of prizes will be shown to those inventions which have the greatest practical bearing and whose usefulness shall have been demonstrated in the most obvious manner by the models entered in the competition.

9. Inventions are admitted to the competition for prizes exclusively through the medium of the Central Committees of the Red Cross and it is the duty of these Committees to refuse or admit the inventions from their respective countries to the competition. All accompanying expenses rest with the person who presents the invention or with the respective Committee according to the agreement between them.

10. In case of the organization simultaneously with the competition, and in the same city, of an exposition of the Red Cross, the inventions competing for the prize must be obligatorily exhibited at the expense of the persons and institutions which have presented them and this in such a way that there can be no doubt that the objects form a separate group.

11. The award of prizes is made by a special International Jury, composed of 8 members, of which two are elected permanently, one by the Russian Red Cross Society and the other by the International Committee. The other six members are elected by the Central Committees of other countries.

12. The Seventh International Conference of the Red Cross appointed six Central Committees, the representatives of which formed part of the Jury at the first distribution of prizes which took place in 1907. To permit the Central Committees of each country, in future, to be represented successively in the Jury, at each Conference two Central Committees shall be withdrawn by lot from the Committees whose representatives took part in the last preceding distribution of prizes. These Committees shall be replaced by two other Committees chosen by the Conference. The Jury elects its own President who directs its work and transmits all its decisions and briefs as well as all designs and descriptions submitted to the Russian Red Cross Society which delivers the diplomas and the prizes.

13. The disposable sums of the Fund are only appropriated for the distribution of prizes and for those expenses directly related to the work of the Jury, such as the transferring of money, the making of diplomas, etc. The cost for transportation of exhibits to the place of competition and for the care of these exhibits, their exposition, etc., as well as all other expenses which have no direct bearing on the work of the Jury are not to be charged to the Fund.

14. If the competition does not give completely satisfactory results, the Jury is not required to distribute the whole sum over which it has control in the award of prizes; the remainder not distributed shall serve to increase the number and the amount of the prizes to be awarded at the following competition.

15. The Central Committees of the Red Cross will be expected to take all necessary measures in their respective countries to give the greatest possible publicity to the competitions.

16. Changes in the destination of the Fund or in the provisions of the statutes can only be made in accordance with decisions of the International Conferences of the Red Cross with previous approval of the August Protectress of the Russian Red Cross Society.

Persistent tachycardia should indicate a search for other evidences of hyperthyroidism. A goiter is not essential to the diagnosis.

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THE GALL BLADDER*

J. L. Campbell, M.D., Atlanta.

This paper contemplates:

I. A brief study of the healthy gall bladder.

II. The etiology, symptomatology, complications and differential diagnosis of its sub-acute and chronic inflammatory diseases.

No consideration will be accorded the pathology of any form, nor will acute inflammations, perforation, empyema or gangrene be discussed.

(I)

The gall bladder is a pear shaped, musculo-membraneous reservoir containing about 1½ ounces of bile but capable of great distention. It has, according to W. J. Mayo, a two-fold function; 1st, by its power of distention it relieves the tension on the common and hepatic ducts during the active stages of liver secretion—thus preventing the pure bile being forced into the pancreas should there be later temporary occlusion of the mouth of the common duct; 2d, it secretes mucous which dilutes the bile so that, if for any reason it is forced into the pancreas, it is harmless or causes only a mild pancreatitis.

The gall bladder is developed as a diverticulum from the common duct which originates as a secondary bud from the duodenum embracing the two primitive liver buds which become the right and left hepatic ducts. It is composed of the same embryonic tissue as the other portions of the fore-gut.

It receives its blood supply from the cystic branch of the hepatic artery—a branch of the celiac axis which also supplies the stomach, duodenum, pancreas, liver and spleen.

The nerve supply is largely sympathetic; coming from the great solar plexus through the coeliac and hepatic plexuses. There is a direct connection with the cerebro-spinal centers and the gall bladder through the right phrenic, the right great splanchnic and the 8th and 9th segments of the cord. The pneumogastrics also enter into the formation of the solar

*Read at Meeting of Medical Association of Georgia, Rome, Ga., April, 1911.

plexus and very probably send filaments to the gall bladder. It is evident that the branch from the right phrenic which supplies the peritoneum of the diaphragm also supplies at least a part of the gall bladder. Head has shown that when the gall bladder is inflammed there is tenderness over the area of distribution of the right 8th and 9th thoracic nerves and along the anterior border of the right trapezius muscle, thus proving the connection with the nerves that supply these areas.

The gall bladder is poorly supplied with lymphatics, the walls having no glands and only a few channels. This accounts for the fact that fever and other constitutional symptoms are so rare where the body alone is involved.

(II)

In order to give an opinion with reasonable certainty of confirmation at the operation we must study with care (A) the etiology, (B) symptomatology and complications and (C) differential diagnosis. As we are more likely to be confused by the sub-acute and chronic forms of the disease I will confine my remarks largely to them.

(A) The etiology may be considered under (1) predisposing and (2) exciting causes.

(1) Of the predisposing causes we have,

(a) Age.

(b) Sex.

(c) Previous or existing illnesses.

(d) Habits.

(a) Cholecystitis and cholelythiasis occur far more frequently in persons of advanced age than in the young; probably because they are more subject to other predisposing causes. 75% of cases are found in persons over forty; about 1% in persons under twenty. A few cases have been reported in infants (Osler's system of medicine).

Ochsner, in Kelly and Noble's Gynecology and Abdominal Surgery, quoting from Hartmann says, that the average age at which patients consult a surgeon; is, males of the laboring class forty, with a duration of symptoms six years; sedentary habits thirty-seven—duration of symptoms, nine years. In females of the laboring class—thirty-five and a half years—duration of symptoms seven years; of sedentary habits thirty-seven with a duration of symptoms nine years. Moynheim found that the majority of patients consulted the physician between the ages of 40 and 45. W. J. Mayo, in a recent article in the J. A. M. A., reported 41 cases under 20 years of age out of a series of 4,000 operated on at St. Mary's Hospital; 38 of these were females.

The average age of my patients have been 44 years. One case in which a large stone was lodged in the common duct was only 26 and had suffered for eight years with definite symptoms of common duct stone dating from her second pregnancy.

(b) Women are far more likely to have gall bladder disease than men. 75.6% of the 4,000 cases operated on by the Mayos were women. Ochsner says that 80% of his cases are women. Other authorities place the ratio at 5 to 1, and 4 to 1. 82% of my patients have been women.

Pregnancy is undoubtedly responsible for the great number of women having cholecystitis, for 90% of the married women in Mayo's cases had borne children, and 90 % of these dated the beginning of their symptoms from a definite pregnancy. 80% of the women on whom I have operated have borne children.

(c) The history of previous or existing illness is also an important matter in considering the predisposing causes and is often of great benefit to us in arriving at a correct conclusion. Appendicitis, typhoid fever and intestinal indigestion, or catarrh (so often caused by cholecystitis that it is hard to say which precedes the other) deserves consideration in the order named.

Ochsner found that 35% of his cases had suffered with either acute or chronic appendicitis. McCarthy found evidence of appendicitis in 13% in a pathological study of a series of 365 cases from the Mayo clinic. 23.5% of my cases have had appendicities and the appendix has been removed at the time of operation except in one case where it had previously been removed without benefit. In addition to the above, 21.5% of the women had pelvic disease complicating the appendicitis making in all about 41% who had suffered with appendicitis.

In my cases 30% had typhoid fever previous to the onset of the gall bladder symptoms. Two of them less than one year. In one, the gall bladder symptoms seemed to begin with the convalescence and continued until the operation. The

others had passed from one to several years before the onset of the gall bladder symptoms. 11.2% of a series of 240 cases reported by J. B. Deaver showed typhoid bacilli in cultures made from the bile; while 28.3% of the same series showed colon bacilli in the cultures.

It is highly probable that the ptosis usually accompanying intestinal catarrh may have some relation to the cause of cholecystitis as it prevents free drainage of the gall bladder. It is a well known fact that where there is residual bile it forms a splendid culture medium. Adhesions of the gall bladder to the neighboring viscera—especially to the duodenum, organic heart and kidney disease, pneumonia and many other conditions by lowering the body resistance bring about changes which favor gall stone formations.

(c) Tight lacing, sedentary and indoor habits tend to constipation thus filling the intestine with bacteria which naturally gives the liver more work to do and lessens the bacteriacidal action of the bile.

(2) Infection is always the exciting cause but cannot become effective so long as some of the above conditions do not exist.

The infection may reach the gall bladder (a) by means of the portal circulation, (b) the systemic circulation, (c) the lymphatics, (d) extention from the intestine by the common duct, (e) extention from the general peritoneal cavity through the walls of the gall bladder. These take place in the order named.

(b) The symptoms of cholecystitis are exceedingly variable. Patients with marked pathological changes, many stones in the gall bladder and even a stone in the common duct, may have periods of apparently perfect health, while others with only a catarrhal inflammation and a few adhesions may suffer great inconvenience.

Symptoms referred to the stomach are probably the most constant. There is a feeling of fullness and weight about the epigastrium often relieved by eructations of gas. Nausea is an almost constant symptom during the attack of "colic" and relief frequently follows a complete evacuation of the stomach either by vomiting or lavage.

The irritation within the gall bladder disturbs the function of the stomach because, as we have tried to show, the two are closely related embryologically, anatomically and physiologically. There is a burning sensation in the stomach accompanied by great nervousness. Indigestion is nearly always present but the symptoms have no regular periodicity with reference to food.

Pain is a variable symptom so far as the severity is concerned. Nearly all cases suffer some pain but by no means so large a number as was formerly believed. During an attact of colic the pain is very severe, and the patient calls loudly for relief. This pain is usually felt just to the right of the median line, raditing over the upper right quadrant of the abdomen and may be felt beneath the sternum, finally to concentrate around the gall bladder. When this symptom is present there is little danger of making a mistake in the diagnosis. If the symptoms are of the sub-acute or chronic continuous type, as so often appears, we experience more difficulty. In a majority of cases there will be an indefinite history of pain and tenderness over the distribution of the posterior divisions of the right 8th and 9th, thoracic nerves and sometimes where the lateral branches are given off. A few patients will have a tender point about 2″ above the right shoulder tip along the anterior border of the trapezius muscle. These points are sometimes unnoticed by the patient but can be easily demonstrated by pressure. Occasionally there is a sense of constriction as if there was something tied around the body just above the waist. The skin may be hyperesthetic over the area of distribution of the 8th and 9th thoracic nerves.

Pain about the fundus of the gall bladder may be experienced from a change of position, as turning from side to side, or rising from a sitting to a standing position.

Murphy has emphasized the fact that if we press our fingers firmly over the fundus of the gall bladder and ask the patient to cough there will be such a sudden contraction of the diaphragm when the fundus is brought in contact with the depressed abdominal wall that the cough will be arrested. There is frequently rigidity of the right rectus muscle. Pressure over the appendix will sometimes cause pain in the gall bladder region.

In my cases 41% have had acute attacks of colic with periods of good health

—except for indigestion. Certain articles of food would nearly always bring on attacks of colic. Tenderness over the gall bladder was not always present during the interval. In 29.4% there was a history of one, more or less, severe attack; the symptoms continuing but not severe enough to confine the patients to bed or prevent them doing a certain amount of work. They had a tender spot below the right scapula. One of them had an area of hyperesthesia in the axillary line over the distribution of the right 8th and 9th thoracic nerves. Murphy's sign was well marked in all. They also suffered with indigestion.

Jaundice, like pain, is by no means a constant symptom, and when present means a complication. Perhaps the most frequent cause of jaundice is a stone in the common duct, and jaundice is of an intermittant type and is often accompanied by chills and fever—resembling malaria. The "ball valve" condition is produced and as soon as the obstruction is relieved by the stone regurgitating into the dilated duct the jaundice clears up, but a sufficient amount of infection has occurred and a chill is the result.

A malignant growth of, or near, the common duct is another cause. Here the jaundice is of an increasing type growing worse from day to day. The same character of jaundice, though to a less degree, may be produced by pancreatitis.

Cholangitis may be caused by the passage of a stone or plug of infected mucous through the common duct and jaundice result—but clears up in a few days.

One of the above complications, was found in 23.5% of my cases that had jaundice.

(c) Differential diagnosis; many surgeons have found it most difficult to differentiate between peptic ulcer and cholecystitis. In peptic ulcer there is more regularity to the periodicity and more definite relation to the intake of the food. The pain is not so severe and differs much in character. In the majority of cases there is more likely to be blood in the vomitus or stools; though in severe cases of gall stone colic there may be some blood vomited due to the straining. The acidity of the stomach is more pronounced in ulcer than in cholecystitis.

Chronic pancreatitis may be mistaken for cholesystitis, but if a careful examination of the stools after a series of test meals is made the diagnosis can generally be cleared up.

Cholecystitis may be mistaken for appendicitis. In one of my cases the appendix had been removed without benefit to the patient. A perforating ulcer of the duodenum may be mistaken for gall stone colic and result fatally or be walled off and an abscess formed. If, however, a careful examination of the blood be made, marked leukocytosis will be found following the perforation.

DISCUSSION ON DR. CAMPBELL'S PAPER.

Dr. W. W. Battey, Jr., Augusta: I should like to ask Dr. Campbell in how many cases did he demonstrate the existance of a tumor of the gallbladder and cholecystitis before operation. Also in how many cases did cancer coexist with the gallstones. Also whether or not the law of Voise (?) was born out in his cases, that in cancer of the common duct the gallbladder is found to be collapsed even in the presence of stones. If there are any gallstones the gallbladder will be found to be distended.

Dr. E. G. Jones, Atlanta: When we have a cholecystitis as the result of the presence of stones in the gallbladder, and we make such a diagnosis, it tends to inspire confidence in our diagnostic ability. We have passed through the time in our surgical life when we believe that every gallbladder we open will show the presence of stones, or of cancer; we cannot say that the operation was undertaken in an illy advised manner. As we operate more and more we appreciate that we must recognize infections of the gallbladder; these may take place without any active formation of stones therein. Often these cases may be cured by proper drainage. Such a state of affairs is more apt to be mistaken for appendicitis; the condition, however, causing the symptoms are from a cholecystitis due to the presence of stones in the gallbladder There is tenderness over the gallbladder. The gallbladder is more constantly sensitive to pressure than if gallstones were responsible for the situation. Most of the symptoms belonging to an acute attack are not present. The main symptoms are

really those of indigestion. A paper on the subject of indigestion dependent upon gallstones I believe to be warranted; the time would be well spent on that symptom alone. Twenty patients suffering from chronic stomach trouble will show twelve —and this is perhaps a conservative estimate—have troubles with which the surgeon has nothing to do, the other eight will show gallstones or gallbladder troubles or appendicitis; or there may be gastric or duodenal ulcers; or there may be a tuberculous condition, or some malignancy, perhaps cancer present. So we find that eight individuals out of twenty cannot be promised much by medical treatment, but very much can be promised by surgical treatment. Visceral carcinomata, and more especially those affecting the stomach, have been found to be operable.

There are three stages of gallbladder diagnoses. There was once a time when such a diagnosis was not thought possible without the presence of jaundice. Then the view became generally adopted that a stone might be present which gave rise to cholecystitis and without the occurrence of jaundice, but with colic. We now know that indigestion may be the one symptom of which the patient complains. I believe that every text-book or paper which deals with the symptomatology of gallbladder troubles should say parenthetically that indigestion is one of the symptoms. Any individual coming to the average physician complaining of indigestion, colicky pains—actual colic—should have the gallbladder examined very carefully for trouble. There are a very large number of patients complaining of abdominal pain and indigestion that will be invariably relieved, and perhaps entirely cured, by the removal of the gallstones; the drainage of the gallbladder will accomplish much in many of these cases. One should be very careful and inquire of any individual who complains of indigestion whether this occurred last year, or when it occurred, for such an attack might have been due to appendicitis, to gallstones and to other things named. It must be borne in mind that all do not complain of pain; a man with a broken arm may say he has no pain; a woman who had borne ten children stated that she had no pain. Many times no information you can get from your patient will explain the indigestion, especially indigestion that has occurred in the past. So that I think this is a question that should be called to the attention of physicians and very forcibly

Dr. R. P. Glenn, Columbus: There is no question in surgery more interesting to me than the surgery of the gallbladder. I have had more patients complaining of indigestion when they were suffering either from a chronic cholecystitis or gallstones than from any other pathological condition in which they came to me complaining of indigestion. As Dr. Jones has just stated, indigestion, or gastric or intestinal disturbances, are very often, and almost invariably, the accompaniment of of cholecystitis. There is no class of patients who appreciate more the relief given which surgery gives, than these patients who have suffered for years from these attacks of gallstone colic. I know of nothing that surgery has accomplished in the past years that has given humanity more relief than the removal of the gallbladder or gallstones. This is a point that I wish especially to inquire into, and to have discussed; what are the observations on this subject of the physicians here present; which is better in these cases, to do a cholecystectomy or a cholecystotomy? Dr. Mayo recommends a curettage of the mucous membrane of the gallbladder and claims that when the gallbladder collapses it will be obliterated and nothing but adhesions to the abdominal wall will remain. I have personally seen three or four cases which recurred after a cholecystotomy, and a second operation had to be performed.

In regard to indigestion and certain obscure symptoms that have been referred to, I have in mind a patient who came under observation two years ago complaining of indigestion and inability to eat but a few things. I made a diagnosis of gallstones. He passed through the hands of several physicians and they all disagreed with regard to the diagnosis of his trouble. While away from home he was seized with a violent attack of colic and one of the physicians who had been treating him for stomach trouble and who was called in at last agreed with the surgeons that there were very strong symptoms of gallstones present. At operation there was found one stone; this had a very rough exterior. Since the removal

of this stone the patient has been perfectly free from any gastric or intestinal diturbances.

Dr. Floyd W. McRae, Atlanta: This question is one of a great deal of importance and the points that have been brought out are well taken. I am reminded of a discussion I heard about fifteen years ago which was led by Dr. ....., of Lousiville. At the time he reported one hundred (100) cases of gallstones that he had operated upon, and many present questioned this for the reason they could not understand why one surgeon had so many gallstone cases when the rest of them saw so few. The gentleman who made the report of such a number of cases was one of the finest surgeons the South ever produced. He said to those assembled: "The reason I find so many cases is because I look for them and know when they are there." This is a good point, and it should be born in mind; gallbladders are liable to become inflammed, and an inflammed gallbladder in ninety per cent. (90%) of the cases contains stones. In obscure cases of indigestion, the gallbladder should be carefully examined and very often one will find gallstones are really present and the cause of the cholecystitis and resulting symptoms In making the diagnosis of gallstones and gallbladder disease a point brought out is very important, i. e., in most of these cases of gallstones with a history of cholecystitis, the statement will often be made that "I was awakened at 12 o'clock midnight and at 5 o'clock in the morning with attacks of severe pain and indigestion." Attacks of simple indigestion do not come that way.

There is another point I should like to dwell upon and it is this; the operation of cholecystectomy has hardly a place in surgery. I do not think it should be done. In a paper read by Dr. Mayo he states that the gallbladder is a conservative organ. If you inject bile into the pancreatic duct unmixed with mucus, a certain amount of harm will result; but when the bile is admixed with mucus it is rendered innocuous, less infectious and less dangerous. One can see traces of Nature's attempt to reform the gallbladder after it has been removed. Do not remove the gallbladder when it can be saved and only when it is the source of some pathological condition which necessitates its removal. Then of course it should be removed. When it is the seat, for instance, of a malignant growth, remove it. The causal relation between gallstones and cancer of the gallbladder should be recognized early.

Dr. E. C. Cartledge, Atlanta: Two weeks ago I saw two laparotomies performed for gallstones on patients affected with tabes dorsalis. One patient was subjected to operation because it was suspected that the gallstone trouble was the beginning of the crisis of locomotor ataxia. Such cases are not seen very often, but it illustrates to us that in seeing these cases we should bear in mind the possibility of this and the possibility of making mistakes. To my mind this is a very important point and one that should be emphasized.

The next day at Roosevelt Hospital, New York City, I saw one surgeon operate for suspected gallstones; but he found none. The surgeon said nothing but closed up the wound made. This might have been another case of tabes dorsalis. Watch for the reflexes.

I appreciate the fact that some of the cases may be simply cases of indigestion. I recall a case that was operated upon under local anaesthesia by the infiltration method; the surgeon thought he only had to operate to make drainage for a catarrhal condition, but he found in the gallbladder three stones.

I do not intend to depreciate this operation; what has occurred to me is that in making a diagnosis we should be very careful and avoid mistakes.

Dr. Fenton B. Turck, Chicago, Ill.: It is a great honor to allow me to come among you. Many of you are known throughout the United States and have distinguished yourselves in medicine and surgery; many of you have made scientific medical research, and I have learned much in listening to you. I am much impressed with the elegant **corps d'esprit** and the splendid relationship shown one another, and the courtesy you have shown me.

Today I have listened to surgical papers in which the physiology of the alimentary tract has been carefully gone over; I have listened to the remarks of each of the discussors with benefit. What has been stated shows very eloquently the neces-

sity of a more careful study of the etiology of these diseases; one should not be satisfied with the removal of the diseased organ; one should look for evidences of disturbance that have gone before the disease manifested itself with these symptoms.

Inasmuch as I am to give a lantern slide demonstration tomorrow evening on this subject, I will not take up your valuable time longer; I only wish to express my gratitude for the cordial reception you have accorded me.

Dr. J. L. Campbell, Atlanta, (closing the discussion): In regard to indigestion as being one of the symptoms of gallbladder disease, I think I placed it first in my paper; these symptoms of indigestion are some of the most important that we have. Dr. Jones stated that among twenty (20) patients suffering from chronic stomach trouble twelve (12) would have troubles with which the surgeon has nothing to do; the other eight (8) were amenable to surgical treatment. Personally I think this is too low an estimate. I believe that every case of indigestion that has been treated unsuccessfully for six or eight months, and especially if the patient presents a tender point either over the fundus of the gallbladder or to the right of the medium line in the upper abdomen with tenderness at the points of distribution of the posterior division of the eighth and ninth thoracic nerves at the lower angle of the scapula, I think then we are justified at least in suspecting gallbladder trouble. If, on the other hand, the tender point presents on the right side, near the angle of the right scapula, Deaver states that we may expect some trouble in the upper part of the duodenum or the pyloric end of the stomach. The reflex pain in these cases is referred to the left rather than to the right side. If again we have a tender point at the angle of both scapulae, then we may expect trouble with both the pylorus and gallbladder.

With regard to the removal of the gallbladder, a few years ago one of our surgeons advocated its total removal, but the pendulum has now swung in the opposite direction. Surgeons today would not remove the gallbladder unless absolutely necessary; rather they would drain it and place it in as healthy condition as possible. Dr. Mayo states that it acts as a safety valve. The pancreatic duct comes down to unite with the common duct prior to its entrance into the duodenum and there occurs a dilution which he likens to the carburetor of a gas engine. The two secretions mix at this point. If pure bile is forced down and enters the pancreatic tissue, there is then set up a destructive pancreatitis; if, however, it is diluted bile then there is set up only a mild pancreatitis.

With regard to collapse of the gallbladder I have never seen but one case. This occurred in an old lady. The gallbladder was drained. A relapse occurred and she was operated upon a second time. After the second operation she got along well until death occurred eighteen months later. After the second operation she had no more pain.

With regard to the early morning pain in gallbladder troubles, referred to by Dr. McRae, I have been looking for it for some time but have not seen such a case with any regular periodicity of these attacks. They appear, in my experience, at irregular periods. Dr. McRae states that he nearly always gets a history of attacks of pain occurring early in the morning.

DRINKING WATER WITH MEALS: A PHYSIOLOGIC AND DIETETIC STUDY*

Geo. M. Niles, M.D.

Professor of Physiology, Southern College of Pharmacy; Associate Professor of Physiology, Atlanta School of Medicine; Gastroenterologist to the Tabernacle Infirmary Atlanta.

Water, the cup that cheers but not inebriates, the universal solvent, has claimed attention from the earliest antiquity. As a therapeutic agent it has proved most efficacious, and since Naaman, the Syrian, was healed of his leprosy by bathing in the river Jordan even to the present moment, there has been no lack of earnest adherents to the various methods of hydrotherapy.

The literature on this subject is most voluminous, a glance at the list of references in the catalogue of the Surgeon-

*Read at Meeting of Medical Association of Georgia, Rome, Ga., April, 1911.

General's Library, Washington, revealing 32 columns with 640 citations devoted to hydrotherapy alone.

There is one phase of the question, however, to which scant attention has been given, and, when mentioned at all, is alluded to in a careless and perfunctory manner. I refer to the propriety and advisability of drinking water with meals.

There is a widespread idea that the habit of imbibing water or any other fluid, as food is being taken, is harmful to the digestion; that it dilutes and weakens the gastric juice, therefore interfering with the proper functioning of the stomach. So fixed is this belief that many physicians, when instituting a dietetic regimen, as a matter of routine, prohibit water with meals; while the printed diet list of a stomach specialist I have in mind bears the injunction "Do not take more than one and one half glasses of fluid with any meal."

This wholesale indictment I believe to be wrong. I believe it to be based on erroneous physiological conclusions, and promulgated more by tradition than by painstaking study or observation.

I unhesitatingly assert, therefore, that a generous quantity of good and not too cold water taken with the daily meals, instead of being injurious, is conducive to health, and is contraindicated only in certain diseased conditions, which I will mention later in this study.

The older works on physiology taught that the contents of the stomach were kept in a general rotary movement, so as to become more or less uniformly mixed; that each portion of the contents were thoroughly "churned," as it were, so that the gastric juice would quickly and effectively permeate the whole mass; that the salivary digestion of starchy foods ceased as soon as the stomach was reached; and that the musculature of the stomach exercised a decided triturating power.

In recent years the subject has been studied with great success by means of X-rays, on the excised stomach, and by means of tambours introduced into the stomach to measure the pressure changes. These researches all unite in emphasizing one fundamental point—mainly, that the fundic end of the stomach is not actively concerned in its movements, but serves rather as a reservoir for retaining the bulk of the food, allowing the ptyalin more time to continue its work, and by the normal tone existing in the fundus, as well as the whole viscus, to gently force its contents down into the main body and pyloric region of the stomach as is required by ordely digestive progress. Furthermore the observations of Cannon, and also Grutzner, indicate that the successive portions of a meal as taken, instead of being speedily mixed, are arranged in definite strata. The food first taken lays next to the walls of the stomach, while the succeeding portions are arranged regularly in the interior in a concentric fashion. Such an arrangement of the food is more readily understood when one recalls that the healthy stomach has never any empty space within; its cavity is only as large as its contents, so that the first portion of food eaten entirely fills it, and successive portions find the wall layer occupied, and are received into the interior. The ingestion of much liquid into an atonic stomach would interfere somewhat with this stratification, but not so in a stomach of normal tone.

As to the order in which the different elements are evacuated from the stomach, it has been demonstrated by Cannon and Pawlow that, when liquid food alone is taken, it can be forced into the duodenum in a few minutes, and when a mixed meal is taken, the liquid part is first expelled, then the major part of the carbohydrates, then the major part of the proteins, and last the fats. Fats remain long in the stomach, when taken alone, and when combined with the other food-stuffs markedly delay their exit through the pylorus. On account of the stratification of the food as it is taken into the stomach, that taken first has the position of advantage. If it is carbohydrate, it is promptly ejected into the intestine; but if it is protein or fat, the passage of the carbohydrate will be delayed. Water, however, finds a ready exit when taken at any stage of a meal.

This, I trust, will demonstrate that water does not to any great extent premeate a mixed meal in the stomach, and consequently cannot to any appreciable degree dilute or interfere with the potency of the gastric juice.

I well remember the words of the late Prof. Austin Flint, Sr., who, in one of his lectures delivered twenty-five years ago, said, "Gentlemen, **theoretically** the ingestion of much water during meals would

dilute the gastric juice and impair digestion, but **practically** this does not seem to be the case.'' Being a man I revered, I heeded his words, and for twenty-five years I have drunk water freely myself, and admonished my patients, under certain restrictions, to do likewise. This course I have had no occasion to regret, nor have I changed my views since my practice has been confined to gastro-intestinal diseases.

Before going further, let me mention the conditions in which much water with meals is contraindicated: In gastroptosis, on account of the weightiness of the water which drags heavily on the already relaxed and inefficient gastric supports; in dilated or atonic stomachs—these stomachs where splashing sounds can be easily elicited—because there is not enough tone in the musculature to evacuate the contents properly, and an excess of water added to a meal would promote further atony and dilation; in patients with weak hearts or uncompensated valvular lesions. Occasionally, where there is a marked tendency to colic or spasm of the pylorus, water should be drunk very moderately with meals. I might also mention that copious draughts of ice-cold water gulped down during fatigue or profuse perspiration are both unhygienic and dangerous.

On the other hand, I find that a large percentage of patients coming under my notice for poor nutrition, constipation, intestinal autointoxication and numerous other states of disordered digestion, are those who drink no water with their meals, or, if at all, very sparingly.

Desiring some additional data on this subject, I enlisted the aid of sixteen young men, sophomore students at the Atlanta School of Medicine, who cheerfully agreed to submit for one week to a series of experiments along this line.

These young men were of healthy physique, good digestion, and with one exception, reported daily evacuation of the bowels. Their ages ranged from 20 to 33, and their weights from 124 to 168. All had normal hearts, lungs, and kidneys, and their stomachs were of proper size and in correct position. Each one was in the habit of drinking one or two—not more—glasses of water or other fluid with meals.

Eight of these young men were instructed to drink no water or other fluid with meals, and between meals to drink no more than demanded by actual thirst. The other eight were instructed to drink four glasses, or one quart, of water with each meal, and between meals to drink it or not as was desired.

These young men were carefully watched, regularly weighed, and each sympton recorded as it appeared. The detailed reports would be wearisome, but I can summarize the results, as follows: Of the eight who drank no water, all lost in weight—from 8 ounces to 2 pounds—with one exception. This exception remained at exactly the same weight, and it might be of interest to mention that this young man was holding his position as a railway mail clerk in addition to his college work, that he was accustomed to irregular habits, so that cutting off his water did not affect him like the others. In addition to the loss in weight, each one complained of headache and more or less constipation, with the above mentioned exception. Only their loyalty made them hold out to the end of the week, and they all seemed glad to get back to the wonted allowance of water.

The eight who drank 4 glasses at each meal fared much better. One of them said that 4 glasses rather crowded his stomach, but did not make him feel uncomfortable otherwise. Of these eight, all gained weight—from 4 ounces to 2 1-4 pounds—except one whose weight remained the same. Not one reported headache, constipation, nor any form of digestive discomfort, and the single one who was constipated at the beginning of the experiment, found his bowels more regular in five days.

I wish to repeat that **not one of the eight suffered a single qualm of indigestion, either gastric or intestinal**, during the week of this experiment. This report speaks for itself.

One objection which some of the Fletcherites or near-Fletcherites might interpose is that an abundance of water taken with food prevents thorough mastication and insalivation. To this I answer that the careless or hurried eater will be careless or hurried whether he takes water or not; while the one who masticates his food sufficiently, (and by sufficiently I do not mean chews it till it is imperceptibly swal-

lowed) will not be deterred by allowing water in liberal quantity. No one more than I favors adequate mastication we should remember that a part of the legitimate functions of the stomach and its juices is to reduce the semi-solid meal to a liquid soupy mass; and when the zealous apostle of the oft-quoted Mr. Fletcher, robs the stomach of much of its proper duty, the stomach will to that extent be weakened, just as any other active part of the body would be impaired by disuse.

This idea I have often heard stressed by Dr. Max Einhorn, of New York, whose words should assuredly bear weight.

During the digestion of every meal an increased amount of blood is required by every one of the organs concerned, and required promptly, if the meal is to be well digested and gotten out of the way of the next meal. At this busy period, therefore, and abundance of water ejected into the intestines is quickly absorbed, and, by temporarily increasing the fulness of the blood vessels, promotes intestinal secretion and peristalsis, to say nothing of its cleansing and solvent properties.

The human body in both its sanitary and constructive housekeeping needs an abundance of water in order to well perform these manifold duties, and, as Solis-Cohen says—"Even the cells of the body are aquatic in their habits."

This necessarily brief presentation of a most important subject expresses a conviction, not based on the dictum of tradition, but based on physiological concept and clinical observation and thus fortified, I commend it to the sober consideration of my hearers.

DISCUSSION ON DR. NILES' PAPER.

Dr. J. W. Duncan, Atlanta: I am one who has been in practice for forty years; all this time it has been advised that people should not drink too much water or fluids at meal times. This I have disregarded; I drink water.

Dr. E. C. Thrash, Atlanta: There is a close relationship between all cell life, both animal and vegetable, in the manner in which they obtain nutrition. Every cell gets its nutrition in an aqueous solution. I think we can study with profit plant life by analogy. Plants must have obtain proper nutrition and for it to develop to the highest degree. If there is a super-abundance of water, the nutriment is too diluted and the plant perishes, or dies, just as it would perish or die if a certain quantity of water in order to the food properties were not in solution at all. The happy medium in watery preparations must be attained, but it must be borne in mind that the nutriment must be in solution. Nature asserts itself when water is required by the system and this demand for water is shown by thirst; thirst may develop during meals as well as between meals. However, it is my policy to curb this desire for fluids during meals. The system will demand what water it requires for the absorption of food stuffs; Nature will look out for that part of it. When you are inclined to drink, drink plenty of water.

Those who take up this subject from the standpoint of fadism I think suffer from it. Drinking too much water is detrimental, and drinking too little water is detrimental. It is better to drink that quantity of water that the system demands so that the food ingested will be in proper solution and the cell structures can obtain that food.

We do not want to go to extremes. Drink the amount of water the system demands; do not, however, over-drink and do not under-drink.

Dr. T. J. McArthur, Cordele: The question of drinking water has interested me for some time, and I think that we are indebted to Dr. Niles for bringing this matter to our attention. I am sure that a great number of people suffer from indigestion supposedly the result of kidney trouble when the real cause is a lack of a sufficient supply of water to the system. While Dr. Niles in his experiments on his students obtained results that were very interesting. I am sure that had he made other experiments with these students, allowing them to take only two glasses of water at meal time and directing them to take a specific amount of water at other times, he would have obtained better results than he did. There is a happy medium between the two extremes. My personal observation has been that it is not best to take a great quantity of liquids at meal time. I think the happy medium is to be found in the taking of two glasses of water. One should insist too upon a

definite quantity of water being taken during the twenty-four hours.

It is said that cell life, both animal and vegetable, naturally requires a good amount of fluid; there is a natural demand for a certain amount of fluid. But we should not force the amount of fluid demanded beyond a certain point. Thirst indicates this demand for water; this I believe to be ordinarily true. But again take plant life. It may demand fluid but unless there is a rain fall it does not get this water. There are many people who take but a small amount of fluid during twenty-four hours. Any demand for water on the part of the system often fails to make any impression upon him and there is a reason for this. Some think that water is injurious. In the southern part of Georgia the water is impure and people will not drink it. Even if they have deep wells, the water contains an excess of calcium salts; this is shown in the cooking utensils used; there is a deposit of these salts upon the vessels in which the water is boiled. Some people get the idea that water is unhealthful and they drink but very small quantities of it.

I think if they drank more and diluted the contents of the alimentary canal more frequently than they do during the twenty-four hours, thus frequently diluting the contents of the alimentary tract, there would occur less absorption of toxins or poisons, constipation would be more or less prevented and these people would be relieved of many of their troubles.

Dr. J. R. B. Branch, Macon: There is one point of value that has not been mentioned in connection with the paper, the time that liquids should be taken during meals. It makes a great deal of difference whether liquids are taken at the beginning or at the close of meals; should we wash down our food with water? The buccal cavity differs from that of the stomach in the way food is mixed. It is necessary that there should be a sufficient amount of ptyalin to start the transformation of sugars and starches into maltose and then to glucose. As you all know the saliva secretion plays a very important part in carbohydrate metabolism. If one chews the food thoroughly one obtains a proper secretion of saliva; if a moderate amount of fluid is taken at this time no harm I believe will result. But if one takes in a large quantity of water or fluid at the same time he takes a mouthful in order to wash it down, I do not think it is the proper thing to do. This interferes with the proper digestion in the mouth of the carbohydrates.

Dr. S. A. Visanska, Atlanta: I think that one of the greatest arguments in favor of the taking of water or fluids with our meals rests in the consideration of the mother's milk; milk curdles in the infant's stomach. When we treat an infant artificially we get a tough curd. In artificial feeding with the same amount of water as is contained in the mother's milk we may get a similar curd. However, I think this is a point in favor of the ingestion of water with our meals.

Another point in favor of the ingestion of water with our meals is that in infants we seldom find kidney troubles; the water seems to flush out the kidneys. A new born baby nurses and passes urine; in adults, if there is too little water, there appears some irritation of the kidneys and of the stomach. So far as my experience goes the taking in of water with meals is more beneficial than harmful.

Dr. George M. Niles, Atlanta, (closing the discussion): I did not expect all to agree with me. It reminds me of the man who had grain in one end of his sack and a rock in the other; he did this because his father did. Many people take a great deal of water with their meals and they expect that from generation to generation the same course will be followed. The physiology of digestion is a long story. I certainly appreciate some of the points brought out in the discussion, but I want to make a comment upon one of my friend's statements in which he says he encourages his patients to drink water, especially the thin, the poorly nourished and constipated woman. It is said they do not drink much water. In this class of patients the poorly nourished, the thin people, I have gotten splendid results by filling them with water. The body needs plenty of water to do its work; water is an aid to this end; it is an aid in the constructive process. This is a matter that I have studied long and feel that I am right in what I have said. Remember the old saying:

"Go see what I have sawn,
Go feel what I have felt;
Go in the woods at early dawn,
And smell what I have smelt."

PENETRATING WOUNDS OF THE ABDOMEN.*

J. R. B. Branch, M.D.

Attending Gynecologist to the Macon Hospital.

In presenting this subject to you I am aware that my paper contains no new or startling facts, but since it is one of general interest and especially as accumulating statistics confirm the conclusions already accepted, it sems worth while to add our series of cases to the literature and to emphasize the more important points they bring out.

Floyd W. McRae in his monograph in Kelly and Noble has given an excellent resume of the literature, and for a complete essay on the subject the reader is referred to that article.

We shall confine ourselves to a discussion of penetrating wounds of the abdomen resulting from violence, and in our series the majority are pistol shot wounds.

The general practitioner as well as the surgeon is interested in this condition for it usually comes to his attention first, What should he do? Our ideas have changed several times as to the reply. First what McRae called "Masterly inactivity" until, or even after there was positive evidence of visceral injury was in vogue. Then prompt surgical intervention, regardless of the circumstances, equipment or operative facilities, was advised. Now we feel that unless the medical attendant is prepared to do a prompt, clean, skillful repair of the perforation the **laisser faire,** policy is best. Until he, or someone else is. While it is perfectly true that other things being equal, the sooner the operation, the better, yet when one can, by a few hours delay, have the operation done under aseptic surrounding by a skillful operator and trained assistants the results justify the delay. Of course under unusual circumstances when the possibility of help is out of the question and bleeding is severe, death seems emminent, immediate operation offers the only chance of recovery.

From 1905 to 1910 inclusive I was able to collect 50 cases from the Macon Hospital records. There was a mortality of 52%. Two cases were not operated on and died, two were incised wounds both recovered, the remainder were pistol shot wounds.

	Recovered	Died	Total
1905	3	1 No Operation	4
1906	3	5 1 not operated on	8
1907	5	5	10
1908	3 2 incised	3	6
1909	3	4	7
1910	7	8	15
	24.48%	26.52%	50

During the past year we had 15 cases which came under my personal observation and it is these which I wish to report in detail.

RECOVERIES
In 1910

Case No.	Age	Race and Sex	Time between injury and operation	Number of perforations	REMARKS
1	4	B.M.	12 Hrs.	4	Two perforations in large bowel, 1 in stomach, 1 in liver.
2	17	B.F.	2 Hrs.	0	Peritoneum entered tangentially, no viscera injured.
3	25	B.M.	6 Hrs.	0	Peritoneum entered tangentially, no viscera injured.
4	21	B.M.	1 Hr.	12	Small bowel.
5	18	B.M.	1 Hr. 30 min	14	12 Perforations in small bowel two in large.
6	22	W.M.	1 Hr. 30 min	6	Small clean cut perforation in small bowel with steel coated ball.
7	35	B.M.	3 Hrs.	3	Two perforations in large bowel, one in liver.

Average 3 Hrs. 50 Min.

DEATHS.

Case No.	Age	Race and Sex	Time between injury and operation	Number of perforations	REMARKS
1	55	B.M.	12 Hrs.	5	Died in 56 hrs. of peritonitis.
2	35	B.M.	6 Hrs.	15	Came in almost moribund died on table, two perforations in bladder.
3	15	B.M.	3 Hrs.	15	Came in almost moribund, died on table.
4	37	B.M.	7 Hrs.	2	Patient improved steadily after operation, died suddenly two and one half days later.
5	31	W.M.	12 Hrs.	4	Two perforations in large bowel, two in small, died in 18 hrs. of shock.
6	39	B.M.	12 Hrs.	15	Died 18 hrs later never rallying from operation.
7	19	B.M.	3 Hrs.	14	Died in 4 hours of shock.
8	25	B.M.	3 Hrs.	14	Died in 27 hours of shock.

Average 7 Hrs. 15 Min.

*Read at Meeting of Medical Association of Georgia, Rome, Ga., April, 1911.

	Recovered	Died	Mortality
Cases operated upon within two hours 4	100%	0	.00%
Cases operated upon within two to seven hours....2	28.57%	5	71.43%
Cases operated upon within seven to twelve hours....1	25%	3	.75%

These cases were operated upon by six different surgeons with considerable difference in technique. From experience as well as reference to the literature we have reached the following conclusions.

I. In all penetrating wounds of the abdomen seen within twelve hours of the injury operation should be done as promptly as is consistant with good technique and careful, skillful work.

2. The incision should be so made and large enough to insure a thorough survey of the abdominal viscera without unduly exposing them.

3. Extensive eviceration is unnecessary and unjustifiable, greatly increasing the mortality.

4. Unless the peritoneum is extensively soiled, intestinal contents should be wiped away with salt gauze sponges; irrigation does more harm than good.

5. If the closure of the perforation, or destruction of blood supply threaten seriously the usefulness of a portion of bowel resection should be done.

6. If the peritoneal cavity be generally or extensively soiled, or if there be any considerable oozing drainage is safer. Otherwise the incision may be closed.

7. Post operative treatment is very important. If there be no lesions in the large bowel, salt solution and coffee aa 150 CC. should be given per rectum q 4h. If the large gut be injured the continuous drop method of Murphy is preferable.

Fowler's position should be maintianed. Pain controlled and peristalsis diminshed with moderate doses of morphia. In wounds of the stomach or upper portion of the small intestine, only small amounts of water should be given by mouth during the first 3 or 4 days. Liquid diet may then begin slowly. Care being taken to avoid distention.

DISCUSSION ON DR. BRANCH'S PAPER.

Dr. W. P. Harbin, Rome: The question before us for consideration I feel to be of the greatest importance. The great fault lies in waiting for the development of symptoms which indicate perforation of the intestines. To follow such a policy is fatal in many instances. In any case of doubt regarding the perforation of the intestine it is better by far to at once open the abdomen. If a bullet wound penetrates below the umbilicus there is the greater probability that the intestines have been penetrated; if such a case is not submitted to operation at once eternal vigilance should be carried out. In many instances it is a long and tedious process to find a small perforation.

I have a case in mind of a pistol wound of the lumbar vertebra which apparently had punctured the intestine; but the bullet had injured the omentum, the mesentery and transverse colon. There was a great amount of hemorrhage in the peritoneal cavity. These were the only lesions that could be found after a very prolonged and careful search. The abdomen was closed except for a small temporary drainage. The patient did very well. The bullet was found to have lodged in the anterior abdominal wall at which point a sinus developed which I thought was due to the presence of the bullet. I finally opened the abdomen again and found that I had to deal with an abscess of the abdominal wall and an abrasion of the intestine which had escaped my observation. A fecal fistula developed three weeks after the operation. There was a slight wound in the intestines which had escaped observation even after a prolonged and careful search. This patient, however, recovered. The fecal fistula healed spontaneously.

The more money The Journal of the Medical Association of Georgia makes out of its advertisements the less it costs the State Association to run the paper. This means that every member of the State Association has an interest in the advertising columns. If one business firm advertises and another does not, patronize the one that does. It is money in your pocket.

In the presence of a smooth, hard, fixed and often tender abdominal tumor giving no characteristic symptoms, it is worth while to think of an ectopic or fused kidney—especially if the mass be in the median line or near the pelvis.

WHY THE MEDICAL ASSOCIATION OF GEORGIA SHOULD LEND ITS INFLUENCE IN REVISING THE PHESENT COMMITMENT LAWS OF THE INSANE IN GEORGIA.*

J. Cheston King, A.B., M.D.

The time has never been more propitious for the enactment of new lunacy legislation.

From the opinion of eminent jurists—the laws of seven-eighths of the States of the Unión and medical experts, humanity, safety and propriety demands doing away with obligatory jury trial. Our present state law is in accordance with the old treatment of the insane—which viewed **insanity as a crime** and therefore a jury trial was demanded by law. Today the new treatment says: that insanity is a disease and therefore doctors should determine its existence. Georgia once had a State Asylum, now she has a State Sanatorium.

The medical profession should see that relief be extended to the insane because of their illness, rather than upon the basis of probable criminal acts. In fact, the law should provide that upon satisfactory medical evidence, the court should be empowered to commit directly—without public proceedings in open court.

The New York statute provides: "That the safety of all parties concerned can readily be taken care of by a hearing before a jury upon notice of the alleged insane, or a friend or relative on his behalf, or upon the court's own motion. The medical profession of our state must recognize the dire necessity for a commission plan of commitment—when they realize that insane people are sick.

Modern civilization with all of its refining influences stands aghast today—when a delicate young mother develops insanity following child-birth—is arraigned in public for trial, before a jury—all of whom are laymen except one. Often her agitation and outbursts leads to a call for police.

Just when she should have the rest and quietude and the proper medical treatment—imagine her horror when she is taken out of the house by uniformed men and put into a wagon. She is placed in a jail where her companions are murderers and thieves. All the misery and horror because she comes in contact with officers of the law, kind of heart and meaning well, who do not understand how to take care of her in her extremity.

Such are usually the experiences of the poor, not the rich.

The final horror is a public trial by jury. With the exception of eight States in the Union we have such enlightened lunacy legislation as has abolished the inquisition by jury.

We as physicians know that our present method of procedure brings shame and humilation upon the patient and the patient's friends and relatives, and its influence upon the patient often results disastrously as to the patient's recovery.

So it is our plain duty to urge an amendment or additional act to our present commitment laws—to guard and guide the public by advocating such laws that relates to the preservation of health and the history of disease.

The true independence of our beloved country in this and all matters relating to her physical and intellectual welfare and progress must be achieved by keeping abreast with the great field of research work by the most careful training and the highest moral, intellectual and scientific development.

As the heart in the human body receives the current from all parts of the system and having revitalized it, returns it with fresh elements of strength, so the medical profession adopts the children of all lands, only to return to their nation, a manhood ennobled by a sense of its own dignity, through the practice of a science which teaches a system of self government, improving their conditions, promoting their interests, and by this means reaching the goal of all progress.

Why then in the line of progress should not this Association use every agency in having enacted a new lunacy law, eliminating the necessity of a jury trial.

After having contended for a change, you may ask, what amendment or alleviation in the law I would suggest?

The following I would offer:

An act providing an additional method for adjudging persons insane, for committing insane persons to the State Sani-

*Read at Meeting of Medical Association of Georgia, Rome, Ga., April, 1911.

tarium for the Insane, for the confinement of persons alleged to be insane, and for other purposes.

Be it enacted by the General Assembly of the State of Georgia, and it is hereby enacted by the authority of the same, that:—

Section 1—Upon the petition of any person, verified upon oath, setting forth that another person is insane, the Ordinary shall immediately issue a commission, notice of issuance of same and time and place of hearing being given to the person alleged to be insane and to the two nearest kin, if there be any known to the residents within the County and if not, upon the person with whom such alleged insane person may reside, directed to two regularly licensed physicians of this State, neither of whom is related to the person alleged to be insane or is connected with the State Sanitarium for the insane, directing said physicians to proceed, at such time and place as the Ordinary may direct, to examine said alleged insane person as to his mental condition, and make to the Ordinary a return under oath as to the sanity of such person. The Ordinary shall from such return, and from other additional proof if he deems it necessary, adjudge such person insane and a fit subject for the State Sanitarium for the insane, and shall immediately commit such person to the State Sanitarium for the insane, or, in his discretion, place such person under the care and custody of some relative, friend or other person who shall act as guardian of the person of such insane person, but in no event shall such person be placed in an institution with which either of the commissioners judging him insane may be connected. Provided, however, should it be made to appear to the satisfaction of the Ordinary that such alleged insane person is violent, or is likely to injure himself or someone else, or that it is dangrous to allow him to run at large and unrestrained, the Ordinary may, in his discretion, at any time after the application for said commission, and before such alleged insane person can be adjudged insane, or can be transmitted to the State Sanitarium for the Insane, commit such person to the custody of some officer of said county, or other proper person, to be selected by the Ordinary for temporary safe keeping.

Section 2—The commissioners appointed under this act shall each make a personal examination of the person alleged to be insane and obtain a history of the case, and each shall make a separate return to the Ordinary upon a blank in form and substance as follows:

"I,.....am a regularly licensed physician under the laws of the State of Georgia, I have personally examined....., a person alleged to be insane, and to the best of my knowledge and belief, do declare that said .....is a person of unsound mind and a fit subject for medical treatment for insanity. The history of the case so far as I have been able to ascertain from making an examination as a physician is as follows:

Name?..... Age?..... Sex?.....
Married, single, widowed? .....
Nativity?..... Education? .....
Occupation?..... Religion?.....
Post office address of nearest relative?....
..... telegraph address?.....

1. What relatives, including grandparents or cousins, have suffered from any of the following diseases: Insanity, epilepsy....., hysteria, neurasthemia, tuberculosis, rheumatism or Brights.....

2. Were parents addicted to excessive use of alcohol, opium, chloral or other narcotics? .....

3. Is the patient addicted to any strong habits? .....

4. Has there been any departure from the normal temperament and conduct of patients? .....

5. If so, describe same.....

6. Give history of any serious physical disease which the patient has had.....

7. Have there been any abnormal sexual habits? .....

8. History of any previous mental aberation .....

9. When and how did the first symptoms of the disease become manifest?.....

10. Prior to that date was there any change in the mental and physical condition of patient?.....

11. Describe as fully as possible the evidence of insanity .....

12. What are the probable causes of the present attack? .....

13. Do suicidal or homicidal tendencies exist; if so, how manifested?.....

14. In what institutions, if any and when, has the patient received treatment?

If a Female.

15. Number of children?..... Age of youngest?.....

16. Number of miscarriages?..... Date of last?.....

17. Has patient had any uterine or ovarian diseases?.....

18. What menstrual irregularities, if any? .....

Remarks: .....

.....

.....

Georgia.....County.

In person appeared....., who on oath says that the above is true to the best of his knowledge and belief.

.....

Sworn to and subscribed before me this the.....day of.....191.....

.....

Section 3. Should said person adjudged to be insane, or any one acting for him, be dissatisfied with the return of said commission and the judgment of the Ordinary thereon, he may, without a suspension of said judgment, demand a commission of lunacy and be brought back to the County for trial thereon as otherwise provided by law, a reasonable time being allowed said applicant on demand for the purpose of obtaining witnesses and preparing for trial.

Section 4. Nothing contained in this act shall be construed to repeal any existing law governing the discharge of any person from the State Sanitarium for the Insane. The Purpose and intent of this Act is not to repeal existing laws, but to provide a proceeding cumulative thereto, and to provide that any person alleged to be insane, may without the humiliation of a public trial, be so adjudged on the return of a commission of physicians, with the approval of the Ordinary, and without delay be committed to some humane custody without close confinement except in cases of dire necessity, and to preserve to such persons the right to a lunacy commission, on demand as otherwise provided by law.

Section 5. All laws and parts of laws in conflict with this act be, and the same are hereby repealed.

That every state should have a commission on lunacy is hardly a question to be disputed. But we cannot hope to adopt all our reforms at once. So let us commence with what is urgent and pressing.

Several months ago, I read a paper on this theme before "The Fulton County Medical Society." The same was unanimously endorsed and a committee was appointed to draft an amendment to our present laws and have same presented to the Legislature, which will be to all intents and purposes what I have outlined to you today. A large per cent of the House and Senate have pledged their support to the measure. It is also endorsed by "The Woman's Confederated Clubs," before whom I discussed the paper.

The following notice is taken from a recent issue of the Southern Medical Journal:

"The Atlanta Journal-Record of Medicine, in its October number, publishes a very interesting article by J. Cheston King A.B., M.D., of Atlanta, Ga., on 'Some Diagnostic Points or Mental Disease,' etc. After describing in plain and practical language the distinguishing features of different forms of mental weakness or disorder he refers in terms of condemnation to the 'Commitment proceedings of the insane in Georgia,' and gives reasons why they should be revised. He considers the trial by jury for their commitment a relic of the dark ages, 'a hardship to the patient and humiliating to the relatives;' a young mother may develop mania, she is tried like a criminal before a jury of six laymen and one physician. If she is convicted of insanity and her people are not able to care for her during the time necessarily intervening between the end of the trial and her removal to the State Sanitarium, she is placed in jail, 'where her companions are murderers and abandoned women, rats and vermin.'"

This is certainly a serious indictment of the civilization that tolerates such conditions. When the presence of variola, yellow fever, plague or leprosy, is in question, we do not summon a jury of laymen, with one doctor for a pilot, to decide whether the disease is there.

We depend entirely upon the medical profession, represented by the Board of Health, for decision and guidance. Why, then, pursue a different course with the insane? Is it to prevent false imprisonment? Commitments only on the order of a committee of the County Board of Health would prevent that. Or is it a remnant of the superstition that the mentally

disordered are the entertainers of internal devils, therefore hostile to christian people, therefore criminal to be tried by jury? It looks that way.

According to Dr. King there are at present only six states in the Union that still retain the antequated method of committing the insane by jury trial. In two other states, a jury is optional. Iowa has commissioners of insanity, presumably physicians, who receive applications, make inquiry into the patient's condition, hear evidence and decide, with power to commit.''

This seems to be a rational and equitable way in which to deal with this important and delicate matter. The question of discharge of such patients from state hospitals for the insane should also be under the control of the same commission. The cry for liberty from even the hopelessly insane should not pass unnoticed, for at some time, somewhere, the physician in charge may not be the man he should be, and great injustice may be done if his verdict is received without question or investigation year after year.

We learn that a bill to change existing conditions in the State of Georgia has been formulated and will be presented to the Legislature at its next meeting, backed by the ''Woman's Confederated Clubs'' and by the general sentiment of the medical profession. We are not acquainted with the provisions of this act, but doubtless they coincide with the simple principles that should mould such a law, namely: that to physicians only should be assigned the duty of determining whether the patient is insane, and the form or variety of the disorder. Also fair play and the absence of any possibility of an unwarranted commitment should be insured by demanding that not fewer than three physicians, licensed to practice medicine by the State Board of Medical Examiners should constitute the commissioners of insanity, and that a unanimous decision should be required to commit without the written consent of the patient.

The subject is one that intimately concerns every citizen of every state. No one knows how soon some cherished relative or companion may be srticken with that supreme misfortune, insanity.

In conclusion let me say: that sooner might the stars be swept from the heaven, or the faculty of memory be eradicated from the human mind, than for a progressive Medical Association to sit idly by and not use their influence, their money and their God-given mind, in eradicating from the statute books of our state, the jury trial for our unfortunate insane, which is but a relic of the dark ages.

DISCUSSION ON DR. KING'S PAPER.

Dr. W. L. Funkhauser, Rome: I have been interested in lunacy trials for about three years and I know that the jurors know little about the work entailed. It was my duty to treat the cases in jail. The jail was not equipped for handling these cases at all. The patients were required to spend ten days in jail and with absolutely no treatment whatever. They were ''doped'' up until the time for trial. Last month a very prominent young man suffering from acute mania was sent to this jail to await trial. He was there during this period of time without any attention whatever. I think that something should be done to remedy this evil.

Dr. R. R. Daly, Atlanta: I wish to speak in support of the bill. We are slow to change; it takes a long time for us to get out of the rut. I am aware of the rusty, dirty, good for nothing filthy jails. For eight years I did nothing but study the insane in jails, big jails and small jails. I do not believe that there are two per cent. of the jails in this country that are fit to live in; the rest are full of dirt and filth. The idea of placing a sick person in such places is founded upon ignorance. Our object should be to get rid of this nuisance. Compare the conditions here found with those in well regulated institutions. In the asylums in the State of New York we were not permitted to accept or to receive patients when in restraint; there they are not allowed to receive patients so long as they are in restraint. If an insane person was placed in the hands of the house physician he would be cared for gently and successfully. If such a person was confined to our jails he would die insane. I have in mind a woman in Atlanta who was terrorizing the neighborhood and the Board of Charities asked me to examine her. She was not placed in prison; if she had been she would have died. We should get busy in Georgia and get rid of that antiquated

custom; we should all work for its abolishment. It should be remembered that these people are sick and need the care of a skillful physician.

Dr. W. A. Ellison, Milledgeville: I should like to voice the sentiments expressed in the paper just read, and for two reasons; first, because of my personal interest in the insane and, second, because of my interest for many years in the entire medical profession. There is no one who is better able to appreciate the limitation of the present law than those who are in direct contact with the insane. I wish to lay particular stress upon the limitation of our ten day notice; it has come to my observation that the placing of an individual insane or suspected of being insane in these institutions with their present filthy surroundings, that when he is brought to the attention of the jury he is starving, or in a condition of collapse or prostration. The solution of the present unpleasant conditions I believe to be in having a detention hospital where an individual can get proper medical attention, proper diet, and yet be under the observation of the lunacy commission.

Dr. J. L. Hiers, Savannah: The question brought up in the paper is one that should interest all of us. I think the time is ripe when we should have united action. I also feel that we should work together as a body in our endeavor to put this bill through; we should not only work together as a medical profession but we should invite the legal profession to assist; the legal profession has been our ablest assistant in this work as in other work. In Savannah it is the custom of our local medical society to invite some one of the able jurists to address the society. Two years ago Mr. McC..... delivered a masterly address upon a medico-legal subject. So far as my knowledge goes, the legal profession is in sympathy with us; it feels as we do that the present laws regarding the commitment of the insane are barbarous and absurb. What I wish to emphasize is that our medical societies should invite the co-operation of the legal profession. We should have the co-operation of many men with great legal ability, men who are well versed in medico-legal subjects. I have many times thought that the medico-legal society in this State had proceedings which redounded to good citizenship.

Dr. J. C. King, Atlanta, (closing the discussion): What I have presented is simply a modification—a slight modification of the present existing laws, doing away with jury trials. To enact new laws of a medical nature has been in the past a matter almost impossible. It may be that as a society, we are not incorporated as we should be. The subject under discussion concerns not alone the public as a whole, but every mother, son, daughter, old and young. Our next move should be to endeavor to have a Commission on Lunacy in this State. The medical experts are laughed at. A crime may be committed in our community and experts on insanity are brought into the trial. The physicians on one side are opposed to the physicians on the other side. With such a state of affairs what can you expect of the physicians. Who can tell who is right and who is wrong? If we had a Commission on Lunacy in the State of Georgia this Commission should pass upon ever case of supposed insanity; the people should know that these men composing this Commission were experts and were not men merely paid to PASS JUDGMENT ON EITHER SIDE.

TREATMENT OF PULMONARY TUBERCULOSIS BY ARTIFICIAL PNEUMOTHORAX*

S. T. Harris, M.D., Valdosta.

The status of artificial or induced therapeutic pneumothorax will in part be shown by this study which is based on the findings of various authors, citing in their reports over 300 cases.

In proof that the theory of artificial pneumothorax in the treatment of phthisis has a basis of scientific fact. I present the following:

Animal Experimentation.

Reubel to show the action of functional rest of the lung on the extent and course of pulmonary tuberculosis, partially immobilized the lungs of rabbits and dogs by wiring the ribs in such a manner as to obliterate the interspaces, thus

*Read at Meeting of Medical Association of Georgia, Rome, Ga., April, 1911.

hampering the excursions and causing this side of the chest to lag behind in respiration. He injected tubercle bacilli into a vein of the ears of these animals. Uninfected animals and a dog infected by injecting T. B. into the lung tissue were used as controls. All of his experiments confirm the fact that functional rest of the lung favored transformation of the tubercle into cicatricial tissue and caused a pronounced retrogression of the infiltration of. tuberculous inflammation. The blood supply to the lung and the dissemination of bacteria from it seemed to be in direct proportions to the respiratory excursions and the activity of the movements of the lung.

Dunin, in the course of animal experimentation, has also shown the tendency of compression to produce fibrosis.

Effects of Pathological Pneumothorax on Tuberculosis of the Lung.

These experiments on animals confirm the observations made on the diseased human lung, in which the results of functional rest obtained by pathological pneumothorax and effusions have been noted for two or three centuries. That these results are curative and arresting in their action on pulmonary tuberculosis is a matter of medical history.

As an example of this fact, I beg to call your attention to the following case reported by Thue:

A young man with tuberculosis of the left lung had been under treatment for some months when hydropneumothorax developed in the diseased side and the patient begin to improve. For 12 years afterwards he was in comparative good health and doing hard manual labor. He died from a sudden hemorrhage. The autopsy showed the left lung still compressed by the pneumothorax and the tuberculous process had become obliterated. Now, in this case, we would by no means expect such results as would be obtained from the systematic application of compression. Still the course and autopsy showed that there was a clinical recovery and an anatomical cure.

Curative Effects of Induced Pneumothorax on Conditions other than Phthisis.

To show that induced pneumothorax is in itself a curative measure, it would not be amiss to cite cases where favorable results have been obtained from its use in other conditions than phthisis.

Molon has been using oxygen in the pleural cavity to replace the effusions from pleurisy, with favorable results. He has treated six cases of secondary pleurisy without effusions where all, symptoms disappeared after the injection of about 400 C. C. of oxygen. The symptoms returned in one case but yielded to a second injection.

In two out of three cases of Wenckebach remarkable benefit was displayed from the evacuation of a tuberculous empyema and introducing air into the closed chest. Patients were in a threatening condition when the pus was aspirated in amounts up to two liters. The injections of air were repeated in from three to six weeks. At the end of 11 weeks in the first case there was neither trace of pyothorax or pneumothorax, as also after 15 weeks in the second case. The third case was less favorable.

Forlanini reports similar results from a like procedure.

The above reports might be regarded as an index to a change in the technic for the evacuation of pleural effusions. In this connection the experience of Holmgren is interesting. In 17 cases he pumped air in the plerual cavity to take the place of pathological effusions. The effusions, even to the last drop, can thus be forced out by the pressure of the instreaming air. He regards this technic as having the double advantage of evacuating the pleura and inducing a therapeutic pneumothorax when idicated.

Da Gradi reports three cases from Forlanini's clinic at Pavia where associated laryngeal lesions healed completely under pneumothorax. In his opinion, we should not regard laryngeal tuberculosis as a local process, but that it is maintained from lesions lower down by the passage of sputum.

Courmant indicates that where the larynx is involved benefit is obtained from immobilization of the lung. While these effects in the cure of laryngeal tuberculosis are secondary, they show the remarkable effects of pneumothorax on the lung below.

A case of croupous pneumonia followed by abscess in the lung of 6 years standing is reported by Forlanini. This case had been rebellious to all methods, and was

cured in a few months by artificial pneumothorax. The cure had persisted for three years up to the time of the report.

Does Artificial Pneumothorax Cure Pulmonary Tuberculosis?

If we are to accept as true the statement of those who have engaged in this work no one could fail to agree that artificial pneumothorax **can** and **does cure** pulmonary tuberculosis. No unfavorable authoritative comment has presented itself.

In reading detailed reports one is struck with the consistent uniformity of the course of cases after operation. Thus we are shown that we are dealing with a method which produces specific, curative results. The action of no drug the effects of any surgical operation present a more with the consistent uniformity of the

Thue gives in detail 11 cases of induced pneumothorax and the results of 13 cases of Saugman. Such advanced cases were treated that cure could not be expected although the results were encouraging. The results obtained by Bauer and Kraus in 6 cases showed that therapeutic pneumothorax may prove successful in a certain class of severe cases when otherwise there would be no recourse.

Von Muralt cites 10 cases, 7 of them regarded as hopeless, where, as a last resort induced pneumothorax was applied. He stated that one was completely cured and all the others on the road to recovery.

Spengler out of 40 cases had favorable results from 25, transient benefit in 6, slight benefit in 6, and bad in three. He recently reports that 15 of his cases can be regarded as clinically cured. After a lapse of nine months to four years after discontinuing the treatment the patients are in splendid working condition, with no fever, cough or sputum.

Of the 102 cases which have been operated on by Brauer and Spengler, a number were cured where in their opinion, the condition was such as to preclude cure from other methods.

Holmboe reports his results in the treatment of five cases of moderately advanced pulmonary tuberculosis where induced pneumothorax gave wonderful improvement after sero-therapy and failed. Cough and sputum ceased and temperature became normal. In one case reported in detail the weight increased 20 pounds, and the patient was able to work several hours each day. Similar results were obtained in the other four cases.

In this connecion the following case might prove of interest.

Mr. F., a young lawyer, in the summer of 1906 had a severe cold resulting in lyryngitis, had a few night sweats and became very thin, had considerable cough and expectoration, especially in the morning. During October, November and December, 1906 he led an outdoor life with no work. Got back his usual strength and weight, with cough and sputum large reduced. The laryngitis continued till spring 1909, when cough and expectoration increased and patient became weak. In August, 1909, sputum was examined showing T. B. At this time he went to the mountains and became a patient in one of the best equipped sanatoriums in the country. Here, in an ideal climate with the very best of dietetic and hygienic treatment, under the care of one of the most competent physicians engaged in this work, he remained a year. A consistent application of serotherapy had been made. His condition improved and T. B. disappeared from sputum several times, but on the slightest exertion would reappear, and patient began to lose. In August, 1910, we did the initial operation for induced pneumothorax. The injections have been continued to the presented time. In about two months after operation the patient's sputum was negative and he was back at home. And in three months from beginning of the treatment was regularly at work and has remained so with no further signs of trouble. He writes that he considers himself a well man. He has a slight amount of expectoration and nasal catarrh, but he states that he has had as much for 10 years past.

This case appears to give a very fair index to the value of artificial pneumothorax as compared to the application of a combination of the very best of other known methods.

Mary E. Lapham reports a case of very severe monolateral tuberculosis involving the whole left lung. "After 18 months in bed with failure to recover, the patient is now cooking her own meals and doing light housework after only two months of artificial pneumothorax."

The well known favorable results obtained by Murphy and Lemke in a large number of cases where massive injections were used and not kept up for any length of time, add their testimony to the efficacy of artificial pneumothorax. The still more favorable results obtained by Orlandi and Fontana where the method of Forlanini was used and the very large experience of Farlanini himself for a great number of years, all lead to the one conclusion as stated by him:—"**That artificial pneumothorax can cure pulmonary tuberculosis.**"

When pneumothorax is properly applied we have then beyond doubt a subjective, clinical and anatomical recovery. Autopsies have shown that every anatomico-pathological condition characteristic of tuberculosis of the lung is obliterated by induced pneumothorax. The complete disappearance of all tubercle bacilli is a common result very early in the treatment.

Prophylactic Value.

At this point I wish to emphasize the practically perfect prophylactic value of this method in dealing with tuberculosis as a general problem. Its value is self evident, and from a public health standpoint is unequaled by any other method or combination of methods in dealing with consumptives. You are enabled to not only cure the patient but to render him innocuous.

To What Class of Tuberculous Patients is Pneumothorax Applicable?

Of course we cannot apply induced pneumothorax to every case of tuberculosis of the lungs. As for instance, very advanced lesions in both lungs. The conditions which permit of its application are defined by Lemke as follows: "Whereas bilateral are not as favorable as unilateral cases, no matter what treatment is instituted, yet compression is not contra-indicated of the lung more advanced in the disease."

Baer and Kraus believe that success may be obtained in a certain class of severe cases when otherwise disarmed.

Both Spengler and Von Muralt believe it applicable only to severe unilateral cases. Thue thinks that the method should be used even in afebrile cases where the tuberculous process progresses, rebellious to other measures.

Holmgren says that it is possible to apply induced pneumothorax in cases where adhesion between the sheets of the pleura apparently contra-indicate it, by injecting physiologic salt solution under a pressure sufficient to detach the adhesions and spread apart the walls of the pleura. Then inject gas.

According to Lapham the contra-indications are "any complication sufficient in itself to inhibit recovery, such as diabetes and too great involvement of the second lung. Lesions of the upper third of the second lung are no contra-indication. Compression is indicated in any case that fails to do well after a fair trial of other methods of treatment."

The statement of Forlanini that "the precise indications are monolateral lesions of considerable extent with non-adherent pleura, no matter whether there is a lesion in the other lung or not, provided it is in the initial stage," is enlarged upon by him. He now thinks that we are justified in using pneumothorax on cases with incipient lesions. His latest triumph is in the cure of two cases of bilateral pulmonary tuberculosis in which after treating one lung under induced pneumothorax—it resuming its function—the same procedure was applied to the other lung with equal success.

The range of action of this method in the treatment of phthisis is constantly widening. Of course, there is a definite limit for its successful application. But it is likely that this has not as yet been accurately determined.

Advances in Diagnosis.

As the diagnosis of pneumothorax is essential to its intelligent application it is not out of place to mention the following advances:

A sign mentioned by Spadaro is a protrusion in the lower part of chest when recumbent and a depression in its place when erect.

Ayers states that X-ray examination has frequently made difficult cases clear, rendered diagnosis more exact, qualified prognosis and explained the effect of treatment.

While I gather that these conclusions were arrived at from the application of X-ray in cases of pathological and accidental pneumothorax, they well express the importance of X-ray and radiography in the diagnosis of induced pneumothorax and in keeping up with the treatment.

The Operaion.

Selection of Site for Injection—A point away from the cardiac area and diaphragm and, if possible, a wide intercostal space thinly covered by muscle, (Lapham) and subcutaneous tissue is chosen for the injection. This point should give by auscultation and percussion indications of as near normal condition of lung and pleura as can be found.

Preparation of Field for Operation—The selected point and its surroundings should be prepared in the same manner as for surgical operations, then dried with a sterile cloth. It might be well at this time to mark the exact point with tincture of iodine. A dry sterile dressing should then be applied. This should be done some little time before the operation. When ready the point for injection should be thoroughly painted with tincture of iodine.

The Operation Itself—As a preliminary the patient should have been given a hypodermic of morphia for the purpose of avoiding pleural reflex (Lapham.) The apparatus should have been prepared, everything being sterilized, the nitrogen jar filled and the reservoir full of fairly hot sterile water. The nitrogen jar should be kept warm. The whole apparatus should have been tested to see that connections were right and the flow of gas free. The point for injection is anaesthetized with ethyl chloride by an assistant.

Now, under every aseptic precaution, the patient with arm on side to be operated on raised above head, a small incision through the skin and subcutaneous tissue into the muscle below, sufficient to admit a medium sized aspirating needle is made at the lower part of the intercostal space. The needle with its point hugging the top of the lower rib in order to avoid the intercostal blood vessels and nerves, is carefully introduced. At the same time, I suggest that the patient should be instructed to draw a deep breath which would further widen the intercostal space, and also tend to the quicker and better formation of an inter-pleural cavity. On passing through the perietal wall of the pleura, the operator will feel a loss of resistance and immediately stop. If successful, the fact will be indicated by an inrush of air causing a whistling sound. When a pleural cavity indicator is used a successful insertion of the needle would be noted by the action of the indicator. If no sound is heard or no effects is produced on the indicator, the patient is instructed to take two or three breaths or to cough. If there is still failure the needle should be moved slightly back and forth, and, if this fails, another point should be selected for the insertion of needle. After insertion of needle you should wait several moments to note the effect upon the patient—if there be any pleural reflex or if any blood vessel has been entered; then the nitrogen apparatus is connected with the needle, the assistant is instructed to raise the reservoir and the injection carefully begun. Inject about 250 to 400 C. C. of nitrogen. If the patient feels a sense of oppression or discomfort stop. Withdraw the needle quickly and seal the incision with collodion. Apply a tight sterile dressing.

I would like to stress the importance of this initial work, as the safety of the patient and the success of the pneumothorax very largely depends on it. Forlanini says that great care must be exercised in preventing infection of the pleura. If pleurisy occurs adhesions may develop which interfere with the pneumothorax. Secondary injections should be made with the same strict aseptic precautions in the immediate neighborhood of the initial injection. A hypodermoclysis needle is used and no incision is made. These injections are comparatively simple and largely free from danger, still every care should be observed in doing them. They should be repeated at sufficient intervals to keep up a continual progression toward perfect pneumothorax, which once obtained should be maintained.

Amount of Gas Used.

The amount of gas injected would depend entirely on the condition of the patient; as to whether there were adhesions, infiltration of the lung and distress of the patient, or symptoms pointing to the discontinuance of the injection.

Of course the size of the thorax varies in different people as well as the pleural cavity capacity. It has been found by different ones doing the work that under the Forlanini plan of frequent repeated injections that amounts varying from 200 to 400 C. C. would ordinarily be used. It is a quesion for the operator to decide.

Lemke reports having used 186 cu. in. at one injection. As the capacity of the right lung compared to the left is about in the proportion of 11 to 10, you would likely use a somewhat larger quantity in the right pleural cavity.

The ultimate object of induced pneumothorax in the treatment of phthisis must be kept in mind in considering the amounts of gas to be used and the amount of pressure to be attained and kept up. The desired condition then of the diseased lung is immobilization for rest; sufficient pressure to drain out the pathological contents and coat the walls of the cavities and ulcerated surfaces in order that they may heal. Also sufficient for the mechanical obstruction of the various avenues by which this infection is transmitted to other parts of the lung. It is supposed that sufficient compression to cause hyperaemia has its effect in a curative way, and further that a point is reached where the absorption of toxins is prevented. It is thought that the avenues for the escape of gas are closed by a certain degree of pressure, which if continued sufficiently may also permanently relax opposing influences. Just what this amount of compression would be might vary with the individual case. Lapham mentions a valuable sign indicative of sufficient pressure which is "a sound as of water dropping." I suggest that for the best results a sufficient degree of compression to at least be negative on deep inspiration would be required. The use of pressure gauges are certainly invaluable in the treatment. Over distention leads to various unpleasant effects and is to be avoided. Too high an intrapleural pressure would lead to more or less displacement of various organs, as the heart, and will invade the mediastinum causing deep seated emphysemas and painful conditions. Perrin states that accidental subsutaneous emphysema can be a compensating process in pneumothorax.

Length of Time Injections Should be Continued.

It is likely that the injections should be continued for about a year but of course no fixed time could be stated for all cases. It is known that pressure has been exerted for a number of years without harmful results and also the uninjured alveoli of the lung may resume their function unimpaired after having been subjected to prolonged pneumothorax.

In cases where the lung fails to expand it seems according to both Forlanini and Wenckebach that the pleura of the spared portions of the lung fail to come in contact with the thoracic pleura. In these cases I suggest a suction process using the same injecting apparatus for pneumothorax reversed. Of course forced respiratory efforts on the part of the patient might aid in bringing about the desired condition. Forlanini states that in certain cases "the scars of the old lesions, the overstretching of the parenchyma, the bronchial deformity, etc., may render the function of the lung difficult." He further asserts that "the stretching again of the healed lung and the restoration of its function may make possible the necessity of a second operation."

Fatalities.

Brauer and Spengler review five fatalities showing the blunders in technic which permitted them. They assert that air embolism is the chief danger and think that this condition from injury has been reported as reflex-spasm or eclampsia of the pleura.

Apparatus.

I beg to present this apparatus of my design for use in pneumothorax work.

As nitrogen is the selected agent its production in a comparatively pure and sterile state has been a matter of no little inconvenience and waste of time. With this apparatus it is possible to produce, ready for use in a very few minutes, any desired amount of sterile nitrogen. The process is simply buring out of air its oxygen with a grain alcohol flame. As the end products of the burning or complete oxidation of ethyl alcohol are water and carbondioxide, we would then have left after burning in a closed vessel nitrogen, water and carbondioxide. This gaseous mixture is then drawn out of the vessel through a solution and over parts of potassium hydroxide which absorb the carbondioxide as well as moisture, thus leaving nitrogen. In the process of drawing off the gas it passes through a small spiral tube in a flame completely sterilizing it.

The apparatus is so arranged that you may obtain your gas either from a bell-jar or from a bottle.

This nitrogen producer by proper connections may also be used as an injecting apparatus. At the same time the sterilization of the gas and absorption of carbondioxide is going on the resultant nitrogen may be injected. The nitrogen may be drawn off into a separate injecting apparatus and used from it if desired.

Conclusions.

Induced Pneumothorax when properly J. A. M. A. Oct. 13, 31 28, 1899.

1st. Produces specific curative results.

2d. Is curative of certain diseased conditions of the pleura and lung.

3rd. Can and does cure pulmonary tuberculosis.

4th. Has cured when all other methods failed.

5th. Has great prophylactic value by rendering the patient innocuous.

6th. While not applicable to all cases of phthisis, has a very large range of action.

7th. Must be done under strict asepsis with correct technic.

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SOME OBSERVATIONS ABOUT THE ALIMENTARY CANAL*

J. C. Brock, M.D., Carrollton.

From the time of Hippocrates on down to modern medicine the conditions of the alimentary canal and its environments have been about the same, both from a physical and pathological standpoint. The improvements made along these lines have come from a better conception of these conditions; and these strides will go hand in hand with other departments of medicine and surgery. The solutions to be made are as difficult or perhaps more so than those which confront us in other departments of medicine. Along these lines, therefore, the doctor fails or makes himself famous in more instances than in all other departments. It is here that more reflexes mislead us into other organisms than is generally admitted—the heart, the kidney, the liver, the condition of blood vessel and hundreds of pains whose cause is often obscured by these reflexes. So many nitches and impacted sacks in which diseased conditions lurk, producing sectional inflammations, that diagnoses are at times difficult to make. These conditions confront every man whether specialist or surgeon alike.

The more intelligent along the lines of these alimentary diseases, the more we cry out for less hurtful causes from food conditions—improper food, improper use of food, bringing to our notice thousands of destroying bacteria from thousands of food sources. The laity cannot settle these food questions, either for the sick or for the individual in health as well.

The intelligent doctor must give shape to the law making power of the land and see to it that these laws are enforced before the death rate is materialy increased. It is here that more lurking evil invades our homes than from all other sources combined. We are at the mercy of food dealers, among whom are a percent that do not hesitate to scatter death and disease broadcast over the land.

The scientific treatment of the stomach and bowels by the modern specialist takes for his sheet anchor the proper diet. The thousands of alimentary nostrums sown broadcast over the land have alike a disastrous influence, in as much as they mislead the unscientific into the belief that curative results may follow their use; thus cheating himself and his patient alike with stuff that often becomes inert in the stomach and may do harm in many cases. Every manufacturer of medicines has his stomach nostrum and all fail from the "rivers to the ends of the earth." The failure is due because the diet treatment was not made paramount. Rest, Rest, Rest. This is the real treatment—the object of everything we do for such cases.

It is not the object of this paper to mention or treat any special disease of the alimentary canal. If it succeeds in making the proper impression of the influence of food, the proper food in diseased conditions, and of the rest period during which the breech may heal of itself, then we feel that its object has been attained.

We all admit the rest treatment for all inflammations, yet many of our doctors fail to observe the proper importance of giving the proper rest to an inflamed alimentary condition. Every section of the alimentary canal from the mouth through the entire tract has its peculiar inflammations; yet it's a simple inflammation brought on many times from various sources and causes. Yet too when these causes are properly looked into we trace them back to improper food or else improper quantity in such proportion that other causes are the exception.

The modern teacher of medicine is giving little or no medicine compared to the importance of the proper diet. The proper diet to alimentary diseases is like clean surgery to its breach, they get well without medicie. What would you think

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of a surgeon of today applying medicine to heal his wounds? It is just as absurd in the diseases under consideration, except in acute affection depending on whatever cause, in which case we remove the cause whether improper food or the germ life produced by improper food. Here is required the best skill at our command, in which event nature must heal the breach.

I challenge any man to demonstrate the possibility of producing a perfect digestant for food. The act of nature in its appropriations in most sections of the canal is of itself necessary to the assimilation of foods.

We conclude therefore the importance of allowing each section to perform its proper function in order that the mechanism of digestion may be allowed to complete its proper office.

ADDRESS BEFORE THE 8th DISTRICT MEDICAL ASSOCIATION

By the President, J. R. Robins, A.M., M.D.

It is a well known fact that as we grow older, the mind is disposed more to reminisences than to anticipations. Goldsmith recognized this when he so graphically depicts, in his "Deserted Village" how the old soldier "shouldered his crutch and showed how battles were won." If I cannot show you how battles were won, I can at least tell you how some of the trials of Medical life may be met. And if I should cause any Doctor present to love his profession more, and take a greater pride in his work, I shall not have spoken in vain.

I do not think that we Doctors are at all times accorded that amount of regard and dignity commensurate with the outlay of time, money, and expenditures of "gray-matter" necessary to become an accomplished physician, I mean as compared with other professions; lawyers, for instance. I have no fight to make on any profession, certainly none against the lawyer; for they, like us, are one of the necessary evils of complex social conditions. And while our interests are not exactly mutual, they are somewhat reciprocal. Sometimes we need them—sometimes they need us. Sometimes we need them to assist us in winding up our patient's estate, after we have unwound the patient. Sometimes they need us to assist them in driving off the snakes, monkeys, and bugs as one of the by-products of chewing too much spice at a politico-legal banquet. But what I mean is this: a young man can read law a few months, answer a few stereotyped questions that have been propounded to legal students since the days of Coke and Blackstone, and he gets his license and begins work. And as he swagers along from his office to the Court House to appeal some 25-cent case to the Supreme Court on a legal technicality and put his county to a few thousand dollars more expense, and raise the indignation of the citizens almost to mob-law and riot; staggering beneath a weight of dignity that would spring the knee-joints of an Archangel, he is saluted with raised hat and they call him, Colonel. We don't object to that. We like to see true worth honored anywhere. We would not be offended if they called him Major-General—anything so you don't call him Doctor.

How is it with a poor Medical student, who spends 8 to 10 years in a grammar school, 4 more years in a literary college, 4 more years of hard study and great expense in a Medical College, 2 or 3 more as interne in a hospital, if he is fortunate enough to obtain the appointment. And then, when he gets home, conscious within himself of his ability to successfully contend with any of the great problems of life that might come before him, to be hailed with, "Why, Hello Doc." It is enough to dissolve all the silicates in DeKalb county and take the stiffening out of Stone Mountain.

We doctors think our profession ranks second only to the ministry of the gospel. Indeed we are working on harmonious lines with him, but at different ends of the row. For while your pastor wears out his life, and his best energies in that grandest and noblest of all callings, pointing humanity upward to those greener pactures, purer waters, brighter skies, and more fragrant flowers that vegitate and bloom beside the river of life higher up as you near the great Eternal fountain; pointing his flock the safest and nearest way to that better land—we doctors wear out our lives in trying to keep them out of the other place as long as possible.

The ways of a doctor are not always ways of pleasantness nor are all paths, paths of peace. He is brought face to face with human nature in all its different phases; and learns here as nowhere else in life how to appreciate the exalted sublimity of true manhood and womanhood as exemplified in the patient, uncomplaining suffering of the hopeless and incurable, calmly awaiting their summons across the "great divide." And he sees that some of "The brightest hues of human character are rain-bowed out in tears." And that—"It is in the firey furnace of trial alone where are refined and spun out those golden threads of character from which are woven the marriage robes of Heaven."

But least he should be unduly impressed with the solemnity of his vocation, he also sees much of the ludicrous side of life. He sees all the kaleidoscopic whims of the hypochondriac man, with a rabbit foot and a buck-eye in his pocket, and an Irish potato sewed up in his pants, and who is firmly convinced that he has a hook-worm hooked on to his appendix, while a thousand pellagraic microbes are finding rich pasture ground on his hands and feet.

He has to listen to all the phantasmigorical chimers of the hysterical woman, fresh from the sanitorium where her expert specialist has relieved her of a dozen of her ovaries, but she still has a few more left all tangled up and wrestling with her uterine appendages, and is suffering from a thousand shifting aches and pains that nothing under heavens will relieve. He occasionaly meets with the semidemented paranoiac who takes him up into the third Heavens, and shows him visions of the Elysian fields that would make anything that John saw on the Isle of Patmos look like a five-cent moving picture show. Then down to the opposite extreme of humanity, he is called on to diagnose and prescribe for the ignorant and superstitious negro with a forked snake in his stomach and a june-bug in his heel.

He has his sweets, but, O, my, how they are tempered with the quintesence of quinine and quassia'. One day he has the pleasure of handing to the proud young husband his first bouncing baby-boy, and after a few hours rest is called up to partake of a little peach and honey, and a hot breakfast. And as the happy papa follow him out to his car, thanks him for his skill and kindness to his loved one—slips a 25 or 50 dollar fee in his hand, and blushingly invites him to call again in about two years. Ah, then he goes on his way rejoicing—whistling "Johnie, get your hair cut like mine." But in course of a few days the moon changes, the tide ebbs, the wind blows from the east, the screech-owls begin to sing and there is trouble in the air. His telephone sounds like a death knell as he is summoned to go 12 or 15 miles through the country, through rain and mud and darkness, and bucks up against a hard proposition in the shape of a 35 year old primipara, with a two inch pelvis, a central implanted placenta-previa, with left shoulder presentation. No help in reach. No time to send for it if there was. He realizes that he must dance the solo through, be the music ever so discordant. Nothing for it but to roll up his sleeves, pull off his coat, (but don't spit in your hands) back his ears and go in for results. And as he fumes and frets and toils and sweats, and prays for the rocks and mountains to fall on him and hide him from the face of four or five old ladies sitting around telling each other what wonderful things Dr. Smith did when Mrs. Jones had twins, rounding up their narratives like the paragraphs in the 5th Chapter of Genesis, with "and she died." No whistling now but as he works with head and hands, his heart beats time to the funeral dirge of—

"Turn backward, turn backward, O Time, in your flight,
"And make me a child again just for tonight;" and a girl child at that.

He no longer wonders why old Job cursed the day he was born, but only regrets that he didn't slip a cog in his cursing machine, and curse the day when everybody else was born.

But after everything is over and quieted down, and the corpses are laid out in strict orthodox style, as he wends his way mournfully homeward, his heart depressed with the great cloud of sorrow that has settled down on that little cabin in the woods; a young life gone out in all the bloom and sweetness of young motherhood, the dearest ties that bind human

hearts together forever sundered, a home wrecked, a heart broken—mother and child both dead, his only consoling thought is, that amid the wreck and ruin around him, that he did manage to save the old man. You older doctors know whereof I speak; and if you younger men have not passed these experiences yet, I will only say, watch for the hand writing on the wall. It may not be Belshazzar's "Mene tekel upharsin," but you will see the zig-zag marks of crooked and perverse destiny, which being interpreted means, "Look out, I'll see you later."

Gentlemen, the grand position which medicine occupies today among the learned professions is not due entirely to the efforts of this generation. The grand accomplishments of today, have only been made possible by the streneous efforts of those who have preceded us. And it is only just and right and proper that we should do as much as in us lies to render straight the paths and smooth the way for still greater achievements by those who are to succeed us. You may not have all the facilities for patient research necessary to the accomplishment of grand and startling results. But let us remember that, he who best performs the work which comes before him, best serves his generation. "Despise not the day of small things." You know not what results may accrue from following out some trifling symptom at the bed-side, or some unexpected chemical combination at your home laboratory to their legitimate and logical conclusion.

Wilber Wright drew his first inspiration of the aeroplane from watching the efforts of a cripple butterfly. Mythology tells us that Jupiter was fed upon goats milk, yet he became the father of the gods. Romulus drew his first nourishment from a she wolf in the dark caves of old Campania, yet he became the founder of an empire that ruled the world for 400 years. Then let us not refuse the golden pebbles that lie along the shore, because we are unable to grasp the whole ocean of truth which lies beyond. Men naturally covet the large things seen at a distance, neglecting the smaller ones that are in easy reach, and which are only the component parts of the one grand whole. O, if there was some grand, glittering goal held up to the gaze of men which might be attained at one supreme effort, how men would leap and struggle for it. But few have the strength of will and tenacity of purpose to scale the rugged mountain height with painful and slow steps, crying "Excelsior" at each little advancement, until with brows crowned with immortal bays they can cry "Eureka" from its summit. We are naturally inclined to strain our vision to the utmost horizon if perchance we might gain a distant view of Beulah Land and inhale some of the sweet perfumes that float through Eden's bowers, when at the same time we recklessly trample beneath our feet some of God's rarest flowers. Then, Gentlemen, if we cannot attain to the heights of Parnassus and drink from that Pyerian Spring that gushes from its summit, we at least are enable to linger at its base and imbibe of its pure waters as they gurgle by.

This grand medical temple of which you are the conservators is not exclusively of our building. It is the result of 6000 years of strenuous effort of humanity reaching up through darkness if perchance they might attain to greater light. One by one has great truths been discovered and been brought to the touch-stone of truth and trial, shaped by the square and compass, polished and finished into building stones and have each fallen into its appropriate place. It has sprung up from the dust and debris of the centuries past, silently like Soloman's Temple, without the click of a trowel or the sound of a hammer. No softened sandstone nor hollow concrete blocks enter into its structure. It is built of granite hewn from the Gethsemanes of the past, and into its walls have gone down as living stones the lives and labors of such men as Harvey, and Galen, and Jenner, and our own immortal C. W. Long. Its foundations are built upon convictions and its pillows are of hope; its vaulted ceilings are of lofty ideals and its windows are of faith; its cement is the toil and privations and sufferings of heroes, and statemen, and philosophers. Seeing then that we have such a magnificent structure in which we may house our best attainments, and where our grandest ideals may be metabolized into living activities, it behooves us to see to it that no unworthy footsteps polute its portals—no unhallowed hands administer at its altars. But even as the tablets of stone handed down through the

smoke and thunderings of Sinai were kept within the Holy of Holies, safe from the poluting touch of unsanctified hands, so in this, our medical temple, in our holy of holies let us enshrine the cardinal virtues of truth and purity as the guardian angels of the purity and sancitity of the homes of our clientel, around which are clustered and from which eminates all that pertains to the weal and betterment of humanity. As well as I love my church, and do love it; as much as I honor and revere this grand 20th century civilization, and I am proud of it, I hesitate not to say, that if you should tear down every church building in your land, disperse your organizations, burn up your legal statutes, and overturn your temples of justice, yet with the purity and sancity of the homes of this land preserved in all their pristine purity, from your wrecked fanes, broken altars, and overturned temples, there would arise, phoenix like, from their ashes, a purer and holier church, and a higher and broader civilization.

This grand temple in which you gentlemen are the officiating priesthood is larger than this world, and more abiding than time. While it dates back to the time when man's unshodden footsteps trod the soil of Eden—when just outside the gate, sickness and death entered the world, men began to gather herbs for the healing of the nations, on down through the centuries of darkness it has come. Devoted men following the least flickering rays of light. Sometimes under great clouds of superstition and error it did seem that the last vestige of scientific medicine had been swept from the face of the earth, and that ignorance and superstition reigned supreme and unchallenged. But it was not dead, for born of humanity's necessity it could not die. There has always been left alive some true hearts in which it smouldered and to which, like the fires of the Vestal Virgins that burned forever on its altars, the true devotees of science might bring back darkened lamps and relight their tapers.

Thus it has come down to us through the centuries. And standing today at the dawning of this grand 20th century, looking with the eye of faith and hope down the dim vistas of the future, may be seen this same old medical temple growing still taller and broader, humanity's light-house pointing out the shoals and quicksand and breakers where human lives are wrecked and lost; throwing out brighter and brighter flashes of knowledge on all subjects pertaining to human hygiene, till the perfect physical man announces to the world that Medical Science has fulfilled its mission and humanity's cycle is complete.

As it is larger than the world, so it is more lasting than time. For while its base is washed and laved by that crystal stream of healing waters that bubbles and boils from beneath the foot-stool of God himself, and watered Eden's bowers, its lofty pinnacles pointed with purity, truth and trust, pierce through the muck and fog and gloom of earth up into the radient sunlight of God's infinite love to man, and around its summit lie clustered the buds and flowers of Eternal Spring.

CONGENITAL INTESTINAL OCCLUSION—REPORT OF CASE.

By George A. Wilcox, M.D., Prof. Gynecology, Medical Department, Unisity of Georgia.

The case of congenital intestinal occlusion here reported represents an infrequent variety of this anomaly, and is related together with a brief survey of similar recorded cases.

Cornelia B., forceps delivery June 3, 1911, 6:30 p. m., wt. 10½ lbs. Physical examination revealed nothing abnormal.

Eighteen hours after birth violent vomiting suddenly began, the vomitus being ochre colored, and having a slight fecal odor. The infant had nursed and colostrum was present in the vomited material. Examination of the rectum showed patent canal.

Physical examination immediately after first attack of vomiting showed abdomen considerably distended and tympanitic. A circumscribed tympanitic area could be easily made out in the epigastric region simulating a dilated stomach. Peristaltic waves were observed coursing across it. A few hours later two cylindrical plugs of tenacious putty-colored material, about one inch in length, each, passed from the rectum. These proved to be mucous and desquamated epithelium. This was the extent of bowel movement.

Dr. Noel M. Moore was called in consultation. Medication consisting of calomel in repeated small doses, castor oil, and gastric lavage and rectal irrigation were alike ineffectual in producing bowel movement. Fecal matter and mucus and some dark blood returned with the stomach washings.

Vomiting continued; the ejected material took on a deeper brown, and became distinctly fecal. Patient became jaundiced. Meteorism increased steadily and two other circumscribed areas were made out, one occupying the right iliac region, one the right hypochondriac region, and the original dilatation in the epigastrium remained. The child grew rapidly worse; pulse and respiration accelerated. Great pain seemed to be experienced at short intervals, occasioned by vigorous peristaltic action. Borborygmi sometimes audible across the room. Gurgling in the bowel heard continuously with the stethoscope.

Operative measure finally resorted to after forty-eight hours. Under light chloroform anaesthesia administered by Dr. Moore, the abdomen was opened in the median line, incision extending above and below the umbilicus. The circumscribed tympanitic areas above referred to were at once seen to be due to a greatly dilated segment of intestine. Stomach inspected and found normal. Beginning at the duodenum, the bowel was quickly traversed. Volvulus of ileum encountered; a coil of gut had become twisted upon itself and consticted by the mesentery, simulating mesenteric hernia. Great engorgement of the blood-vessels noted at this point. Having untwisted this and gone farther, the malformation was discovered. The entire large intestine, beginning at the caecum was nothing more than a fibro-muscular cord. The appendix was normal in size and position. Atresia extended to the sigmoid. flexure. The lower end of ileum proved to be the dilated segment of gut. This was incised just above the beginning of atresia. The undeveloped gut had no lumen. The incised intestine, having collapsed, was brought up to the lower end of abdominal wound and fistula constructed. Wound closed, and small soft rubber tube left in fistula. Child returned to bed and died two hours later.

Review of Cases.

According to Pfaundler and Schlossmann, the symptoms of congenital intestinal occlusion are: violent vomiting beginning shortly after birth, accompanied by abdominal distention and the appearance of dilated coils of bowel, and the complete failure to eliminate meconium per anum. In regard to the location of the undeveloped portion of bowel, the higher up the stenosis or atresia is situated the earlier the vomiting begins. Blood is frequently present in the vomitus, having issued from vessels in the mucous membrane by reason of the vigorous peristalsis and great straining. Ordinarily disturbances of micturition are observed, brought about either reflexly or by compression of ureter or bladder by distended coils of intestine. In the case reported no trouble of this kind was experienced.

The occurrence of this malformation has been explained in numerous ways among which may be mentioned: Arrested development of an intestinal segment due to anomalies of the circulation with ischemia of certain parts of the bowel. (Cordes) Intussusceptions which arose and were reduced during foetal life (Chiari. Braun.) Peristence of the ductus omphalomesentericus can lead to strangulation of the gut and to occlusion of its lumen. Volvulus during development may be responsible for the numerous points of atresia sometimes encountered (Cordes, Archives of Pediatrics. June. 1901.) Kreuter has shown that the intestinal canal in most vertebrates and in man possesses in early embryonic life a well developed lumen, which later is covered by epithelium in order that it may again become patent. Occlusion, according to this view, is due to arrested development in which the opening is either not present or only to a very slight degree, producing atresia or stenosis.

Statistics show stenosis and atresia of the small intestine to stand first in frequency; next are those localized in the duodenum; and last, come those occuring in the large intestine.

As to prognosis, this is inevitably fatal. The gravity of the situation, the futility of medication, and the surgical procedure necessarily formidable and particularly so in the new-born infant, render the outcome uniformly fatal.

Holt remarks that the higher the point of obstruction, the shorter the duration of life; it is rarely more than a week in

any case of atresia; in stenosis it may be two or three months.

Tuffier had no success in 32 operations, 26 of which were enterostomies, 4 entero-anastomoses, and 2 perineal ileostomies. Braun, in 25 operations, had the same results. Bossowski reported 2 cases of his own, and 31 taken from the literature, with no success. Surgical procedures in this condition, mentioned by Pfaundler and Schlossmann, and not regularly reported, have been: the production of artifical anus, suture of the large intestine with the rectum after resection of the affected segment, and entero-anastomosis.

Diagnosis: Examination of the rectum. Inability to eliminate meconium. Vomiting beginning shortly after birth, and increasing in severity, bloody, fecal. Meteorism, distended coils of intestine showing active peristalsis, gurgling and rumbling in the bowel.

Operation by Dr. Geo. A. Wilcox, assisted by Dr. N. M. Moore, Dr. C. I. Bryans and Dr. E. A. Wilcox.

MEETING OF TRUSTEES OF GEORGIA STATE TUBERCULOSIS SANATORIUM.

The Trustees Executive Committee of the Georgia State Tuberculosis Sanatorium met in Atlanta on the eleventh inst. There were present Dr. T. R. Whitley, Pres.; Dr. Jeff Davis, Chairman; Dr. H. R. Slack, Vice-Chairman; Dr. C. H. Richardson, and Miss Rosa Lowe, Sec.

The resignation of Dr. E. W. Glidden, the present superintendent, was accepted and after carefully considering the list of applicants for the position Dr. Wm. V. Parramore was unanimously elected superintendent.

Dr. Parramore is a native Georgian, a graduate of the University of Maryland, and is now assistant superintendent of the Maryland Tuberculosis Sanatorium. He comes to the Georgia Sanatorium very highly endorsed. Dr. H. W. Terrell, of LaGrange, was elected one of the medical examiners for the Sanatorium.

The Sanatorium is now full, but the trustees will have to charge $3.50 per week for seventy-five per cent. of the patients after November the first, as the legislature did not appropriate sufficient funds to carry on the work as required.

MEETING OF EIGHTH DISTRICT MEDICAL ASSOCIATION.

The Eighth District Medical Association of Georgia held its session in Washington, on the 16th of August.

President J. R. Robins, of Siloam, presided. Rev. Key, of Washington, opened the meeting with prayer. Addresses of welcome were made by Dr. T. J. Wills, for the Wilkes County Medical Society, and by Mayor E. A. Barnett, in behalf of the City. Dr. H. M. Fullilove responded.

The President's address was thoroughly enjoyed. It deserves publication but was delivered extemporaneously, and no stenographer was present, unfortunately.

Dr. W. W. Pilcher, one of the Councillors, was present and made a talk on "medical organization."

The following members were elected officers:

President, Dr. T. J. Wills, Washington.
Vice-Pres. Dr. L. E. Roper, Comer.
Sec.-Treas. Dr. D. H. DuPree, Athens.

The Wilkes County Medical Society was the host of the occasion and treated their guests to a delightful barbecue.

The President appointed the following committees:

Public Health and Legislation.
Dr. H. M. Fullilove, Chairman, Athens.
Dr. A. W. Simpson, Washington.
Dr. J. E. Johnson, Elberton.

Program and Scientific Work.
Dr. J. P. Proctor, Athens.
Dr. C. T. Ridley, Hillsboro.
Dr. D. H. DuPree, ex-officio, (Secretary)

SECOND DISTRICT MEDICAL SOCIETY.

The regular meeting of this society was held in Dawson, Sept. 20th. The President, Dr. C. K. Sharp, of Arlington presided. A good program was presented. The society was entertained with lunch at the home of Dr. O. T. Keynon. In addition to the papers prepared by the members, addresses were made by Dr. W. W. Pilcher, Chairman of the Board of Councilors, Dr. A. G. Fort, of the tate Board of Health, Dr. E. C. Ballenger, of Atlanta, and Dr. T. J. McArthur, of Cordele.

The election of officers resulted as follows: President, Dr. Hugo Robinson, Albany; Vice-Pres., Dr. W. W. Calhoun, Bluffton; Sec-Treas., Dr. F. M. Martin, Shellman.

THE ROLE OF THE MYOCARDIUM IN HEART DISEASE.

The more we have learned about the pathological physiology of the heart from the newer studies by means of venous pulse-tracings, cardiograms, and electrocardiograms, the more it is borne in upon us that the function of the heart-muscle itself is what we wish to have most information about and what we know least about, says L. M. Warfield, Milwaukee (**Interstate Medical Journal**, October). Thus far we have no accurate means of measuring the actual power of the muscle, especially its ability to carry on the circulation against the odds of valvular disease, arterial disease, or disease of the muscle itself. If the muscle is strong it will be able to stand enormous degrees of strain without becoming damaged. Hearts, the subject of valvular lesions, are not necessarily weak hearts, says Warfield. The important point to bear in mind is that it is not the valvular lesion which determines the breaking down of the heart, but rather the state of the heart muscle. The author does not mean to say that hearts with valvular lesions are in any sense as strong as normal hearts. Indeed, the very fact that there is a valvular lesion means almost invariably that the myocardium is more or less diseased, usually from the same cause that gives rise to the valvular defect. The normal heart has a wide range of flexibility and great reserve power. The heart with a valvular lesion is always encroaching upon its reserve power so that its range of reserve power is less than that of the normal heart. We have as yet, says Warfield, no means of diagnosing failure of heart-muscle until it actually fails. Time and again autopsy reveals such extensive myocardial disease that we wonder how such hearts could have carried on the circulation competently. The author asks us not to look to praphic records for our evidence of heart failure, but rather to the sensations of our patients, which are still the most valuable indications that the heart has failed to do its work.

THE TUBERCULIN REACTIONS AS DIAGNOSTIC AIDS.

O. H. Benker, St. Louis (**Interstate Medical Journal**, October), has attempted to diagnose early or suspected cases of tuberculosis by noting the reaction to intradermal injections of tuberculin. His technique is as follows:—The place of inoculation over the biceps muscle is cleaned with alcohol; then with a sterile platinum needle and glass syringe, the eye of the needle pointing upwards, inject 1-10 c.cm. of the following five solutions:—Phenol, 1-2 of.1 per cent., O. T. (Koch) 1-10,000 mgrm., O. T. 1-1,000 mgrm., O. T. 1-100 mgrm., O. T. 1-10 mgrm., at a distance of 5 cm. from each other, allowing the solutions slowly to infiltrate the skin, producing a small papule. A positive reaction takes place as a rule several hours after the inoculation to 1-10 mgrm. and 1-100 mgrm., and often also to 1-1,000 mgrm. and even to 1-10,000 mgrm., showing greater intensity to the stronger solutions. After twelve to twenty-four hours the infiltration becomes visible and palpable and the inflammatory reaction increases accordingly. At the end of forty-eight hours it has reached its greatest intensity. There may then be seen a small central tubercle encircled with a zone of redness, shading off gradually into the healthy tissues. The reaction fades away, as a rule, after two days, but persists at times for several weeks. The control injection of 1-2 per cent. phenol shows a slight erythema which becomes imperceptible after a few hours. A slight fever reaction is due to faulty technique in injecting some of the tuberculin subcutaneously instead of intradermally. The author, as the result of his experience with the method, draws the following conclusions:—1. That by the intradermal test, in doses from 1-10,000 to 1-100 mgrm., nearly all doubtful and early cases of tuberculosis can be demonstrated. 2. If after a 1-10 mgrm. injection no reaction occurs, tuberculosis may be excluded. 3. From reactions to doses between 1-10 and 1-100 mgrm. the presence of a latent tuberculosis may be inferred.

THE JOURNAL OF THE MEDICAL ASSOCIATION OF GEORGIA.

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ANONYMOUS CONTRIBUTIONS, whether for publications, for information, or in the way of criticism are consigned to the wastebasket unread.

NEWS: Our readers are requested to send us items of news of a medical nature, also **marked** copies of local newspapers containing matters of interest to physicians. We shall be glad to know the name of the sender in every instance.

AUTOPSIES.

To the thoughful physician who is earnest in his desire to arrive at a correct diagnosis of the cases falling under his care, there is little need to emphasize the truth that the holding of an autopsy in every instance, where he is called on to sign a death certificate, would be of enormous educational value to himself and by consequence of enormous practical value to those among whom he is called to practice his art. To spend days, weeks, or months in studying the course of a disease with all its possibilities of perplexing symptom and baffling idiosyncrasy, and at length, when the solution of the problems that have engaged our most serious study may be attained briefly by direct examination of the changes produced by the disease, to have this solution placed forever beyond our reach, is apt to give us a disheartening sense of restriction.

Among the more important practical advantages that would accrue to physicians and to the community by the introduction of a general routine practice of holding an autopsy before issuing a burial certificate the following may be mentioned:

The physician would be greatly stimulated to thoroughness in his investigations, if conscious that his lapses and oversights might shortly be brought to light. His mistakes would not be buried. They would become a matter of public record. The public might in its own behalf require that he file an ante-mortem diagnosis along side which the post-mortem dignosis would be laid.

Physicians would form far more accurate conceptions of the sum total of morbid changes produced by a disease. Diagnosis would be less the tagging of a malady with its appropriate name and more a recognition of the conditions present throughout all the systems of the body. Completeness in diagnosis would tend to replace superficiality.

Our mortality tables would gain immensely in accuracy. The oft-cited observation that whereas the proportion of deaths due to malaria, to the deaths due to typhoid, in the city of Baltimore was represented in the reports of the board of health as one to one, the proportion found at autopsy was as 16 to 1, serves to emphasize one of the many fallacies regarding the incidence of disease prevalent among practitioners. Measures taken by the community to safeguard its health could be directed with greater intelligence if the causes of death were more clearly defined.

The community would secure a criterion by which to estimate the skill of physicians practicing in it. An intelligent layman, if he pause to reflect, will realize that he is very much in the dark as to what estimate he shall place on the medical skill of his doctor. The defects in his lawyer an opposing cousel is active and

energetic in exposing, but his doctor works in a realm to him mysterious and unknown, nor is he apt to learn from a consulting physician anything to clarify his views.

In a word, routine autopsies mean better doctors, doctors more skilled in the recognition of disease, more competent to serve their patients. The best physicians today are those who have had the best opportunities for following their patients to an autopsy.

* * * *

Why then are autopsies so infrequent? The answer we know well. The sentiment of the public is against them. Sentiment is one of the most potent and salutary factors in human affairs. A noble and elevated sentiment forms the bulwark of much that is most valued and most valuable. Sentiment cherishes the innocence of the young, guards the honor of the home, inspires the arm of the patriot. No one may fling a sneer at sentiment as such. But sentiment must be enlightened to be enduring. It must be founded on reason, on what is ultimately useful to the development of the race. And as a matter of fact public sentiment does quickly mould itself to new ideas and changed conditions.

The sentiment of the inviolability of the dead is extremely venerable. It is a sentiment that forms the theme of the noblest of the Greek tragedies, wherein Antigone gave her life a forfeit for the performance of burial rites due her brother Polynices. It was the sentiment that lent moving horror to Achilles' vengeance when he dragged dead Hector's body round the walls of Troy. In the middle age this sentiment stayed the hand of the anatomist, persecuted Vesalius and Fallopius and retarded medical progress for centuries. It is a sentiment that is natural, that has its springs in the associations of family devotion and tenderness. Physicians are not devoid of it. There is perhaps none that does not shrink from the duty of holding an autopsy. The traditional boisterous jest of the new medical student entering the dissecting room is an expression of his effort to overcome a repugnance to the task he undertakes.

Yet, if we consider the question justly we shall see that the integrity of this sentiment is not compromised by the holding of an autopsy. The body of public opinion has in the past undergone great changes as to treatment due to bodies of the dead. The Greek burned his dead on the funeral pyre, the Roman gathered the ashes of his fathers into urns about his hearthstone, the Zoroastrian exposed the corpse as a prey to vultures, the Egyptian after eviscration embalmed the bodies of his lords and kings in fragrant antiseptics. Today it is regarded as appropriate that the blood should be removed from the body by means of a suction pump and an antiseptic fluid injected into the arteries and veins. The fluid is sometimes injected through the wall into the abdominal cavity.

All these procedures which are either useless to society or at least not indispensible have through custom been sanctioned. They have been found not incompatible with the respect and tenderness due the bodies of the dead. How reasonable then to ask for such a modification of public sentiment as shall sanction a usuage so manifestly expedient, so eminently for the common good as the holding of autopsies.

For we are not asking that the popular sentiment be trampled upon. We ask that it be informed, that it be modified, that people may come to feel that along with the usual rites due in honor to the dead, the closing the eyes, the folding the hands, the cleansing of the body, the embalming, the placing the remains where corruption cannot offend the senses of the living, there be added the autopsy, as a final contribution that the departed may make to the welfare of those that remain.

* * * *

The truth is that physicians themselves are largely to blame that post-mortem examinations are so infrequently made. The physician's excuses are obvious. To ask for an autopsy is a very difficult thing to do. It is a difficult thing when one has watched long at the bedside of the sick, has been a witness to the anguish of the surviving relatives, to approach them with a request that may shock their sensibilities. The physician may be weary and disheartened by his defeat. He may fear to convey the impression that the request for an autopsy is a confession of ignorance. Duties, pressing duties, to the living are calling him elsewhere—and it is easy to shirk this duty to his profession

and his future. Many recognize their lack of experience in interpreting the findings of the autopsy.

These excuses, though cogent, do not constitute a justification of our neglect. It is our duty to educate public sentiment in this matter. It is not the best time to begin when a family is facing a great sorrow. It is a question to be freely discussed in cool blood. It is a great mistake to suppose that the poor and unlearned can be approached most readily on this question. The more liberal and enlightened is your client, the more easily will he appreciate the impregnable force of your position, the more clearly will he see that your motives are serious and unselfish, that you are not prompted, as some ignorant may fancy, by a goulish curiosity, but by a disinterested zeal for the general good. It is important that we should tell people that an autopsy is held not merely to determine the cause of death, that it is equally important to study the course and extent of well recognized diseases. They should know that the body is not disfigured or altered and should feel assured that the autopsy is to be conducted with all dignity and seriousness. That no dishonor attaches to it they may be led to infer from the fact that most complete autopsies were held on the bodies of the Presidents Garfield and McKinley.

The examples of the intelligent will always prevail. We may feel sure that if we are alive to our duty in this matter a sentiment will soon crystalize more favorable to the advancement of medical knowledge.

We offer the suggestion that, as a practical and forcible means of expressing his views, every physician sign a paper requesting that in the event of his death, from whatever cause it may arise, a post-mortem examination of his remains be made.

ELIMINATE THE TERM "ALLOPATH"

To the Editor:—The following correspondence speaks for itself:

Mr. Joseph W. Hill, President,
Atlanta City Directory Company,
Atlanta, Ga.

Dear Sir—In recent issues of the "Atlanta City Directory," the medical practitioners of the city have been classified as "Allopathic," "Homeopathic," "Eclectic," etc., and at a regular meeting of the Fulton County Medical Society, the undersigned were appointed a committee to confer with you, as president of the directory company, in regard to this classification.

Medical men may be divided into two classes—physicians and practitioners of exclusive systems. The adherents of the several systems which have come into existence from time to time, and some of which are now represented in this country, have adopted certain distinctive terms to designate their peculiar practice and to distinguish them from the great body of educated and scientific physicians who belong to no sect, affiliate with no "school," accept no dogma, acknowledge no creed and recognize no arbitrary limit in their practice of the healing art.

To the employment of nicknames on the part of these seceders we urge no objection, and in the use of such names by them —whatever may be their object—we have no concern. Their segregation is voluntary, and the names selected by themselves, it is presumed, are appropriate and agreeable to them.

This is not true, however, of the attempt to fix the name "allopathic" on the reputable physicians of the country. Any such epithet is objectionable and offensive to them, and is repugnant to truth. They are physicians—regular physicians, if you prefer—and it is impossible to apply a qualifying term that appropriately describes their status. They hold that it is inconsistent with the dignity of a learned and honored profession to be designated by a nickname or by any appellation of restrictive significance, and that it is entirely at variance with propriety and the facts to describe their faith or practice by a word, when they are not, in any manner, bound or limited in their views of disease, the selection of remedies or the application of remedial agents.

No descriptive term, therefore, is necessary, and none is available. They cannot properly be circumscribed, hedged in or defined. Physicians are the disciples of the whole science and art of medicine in its widest and most comprehensive sense—nothing more and nothing less—without any real or professed limitations, whatsoever.

We feel confident that, on reflection and investigation, you will coincide with these views and that you will accede to our request to eliminate, as misleading, unnecessary and unjust, this distasteful feature of your excellent work.

Awaiting your answer, we are

Yours very truly,

James B. Baird, M.D.,
John C. Olmsted, M.D.,
L. P. Stephens, M.D.,
Committee.

Dr. J. B. Baird, Chairman Committee,
Fulton County Medical Society, City.

Dear Sir:—Replying to your recent favor requesting that we discontinue the use of the term "allopath," as applied to the medical fraternity belonging to your school of medicine, beg to say that it will afford us great pleasure to comply with your request.

In publishing the city directory, it is our chief aim to give satisfaction to everybody and to be accurate in our statements.

With kindest regards, we are

Yours very truly,

Atlanta City Directory Co.
Per Joseph W. Hill.

I am informed that the objectionable term "allopathic" is in general use throughout the country among directory publishers, and I believe the medical profession should make determined resistance to the obnoxious practice. It is doubtless largely the result of ignorance on the part of the publishers—an ignorance which also involves the general public and even some reputable medical men.

It will be a gracious and profitable move on the part of The Journal with its wide influence to take cognizance of this question.

James B. Baird, Atlanta, Ga.

BOOK REVIEWS.

COLLECTED PAPERS BY THE STAFF

Of St. Mary's Hospital (Mayo Clinic) 1910

Collected Papers by the Staff of St. Mary's Hospital (Mayo Clinic) for 1910. Octavo of 633 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1911. Cloth, $5.50 net.

An exceptionally good precedent has been followed in issuing the second volume of the papers emanating from the Mayo Clinic.

In book form these papers furnish a valuable reference as to the latest methods of treatment, especially along surgical lines, although there are many other papers on pathology as well as medical treatment. The book represents what is substantial in modern surgical progress.

One of the most striking features is to be found in the statistics. These are not put in the usual haphazard way, but are carefully tabulated, and the conclusions drawn from them seem in every way justified. The greater part of the work is naturally given up to the diseases of the alimentary canal, and there we find valuable papers on the stomach, duodenum, gall-bladder and ducts, pancreas and appendix. There are also chapters on hernia, genito-urinary organs, ductless glands and general surgery of the head, neck and extremities.

Among the general papers the "Notes on Italian Surgery", by W. J. Mayo is most interesting. The illustrations are excellently done, and we hope to see a new volume of the papers each year.

H. N. P.

A TEXT-BOOK OF PHYSIOLOGY.

The New (4th) Edition Revised.

A Text-Book of Physiology; for Medical Students and Physicians. By William H. Howell, Ph.D., M.D., Professor of Physiology, Johns Hopkins University, Baltimore. Fourth Edition Revised. Octavo of 1,018 pages, fully illustrated. Philadelphia and London: W. B. Saunders Company, 1911. Cloth, $4.00 net; half Morocco, $5.50 net.

This work has been carefully rewritten and the new material thoroughly sifted and incorporated in the text without increasing the size of the book. The chief additions are to the chapters dealing with the heart, the ductless glands, and reproductive organs. The discussion of the function of the auriculoventricular bundle of His is especially interesting to the clinician.

W. D. C.

Journal of the Medical Association of Georgia

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DYSMENORRHEA.*

J. R. Bromwell Branch, M. D., Macon. Attending Gynecologist to the Macon Hospital.

In preparing a paper on this subject for your consideration, I felt sure my selection would prove of interest to a majority of the members present. The general practitioner sees a large number of cases as does the surgeon and gynecologist. Even the eye, ear, nose and throat men once in a while run across a patient, and in the diagnosis and treatment of the nasal forms which we shall mention later, their aid and interest are invaluable.

Menstruation being about the commonest function of the female organs of generation, its abnormalities naturally are not rare.

It is desirable, even necessary, before dealing with dysmenorrhea to start off with a clear idea of normal menstruation. It may be defined as a phenomenon occurring during the reproductive life in woman whose most obvious sign is the periodic discharge of blood from the uterus. The time of on-set varies with climate, race, social position and mode of life, anywhere from eight to sixteen years. The average in this climate is about thirteen years. The usual interval is 28 days, average duration 3 to five days. It is important to remember that each woman is a law unto herself as interval, duration, amount of flow, pain and systemic upset.

As we find considerable variation in different people, we must inform ourselves as to the menstrual habit of the patient we are to treat before determining how far from her own normal she is.

In a general way, however, we may say normal menstruation consists in a certain amount of pain in the pelvis, lower abdomen, back or thighs; some nervous symptoms such as languor, headache, irritability or depression, and the menstrual flow six or eight ounces in amount. In a woman of average good health, these symptoms should not disqualify her from her usual daily duties, and any very marked increase in them may be con-

*Read before the Sixth District Medical Society, Macon, Ga., Sov. 8, 1911.

sidered pathological, and constitute what is called dysmenorrhea.

We must moreover be familiar with the physiology of menstruation, or our treatment of its abnormalities will necessarily be unscientific and empirical. It is just here that we have been lacking, and consequently have contented ourselves, though not usually the patient, with hit or miss prescriptions, using various anodynes, or anti-spasmodies one after another with chance success or failure.

Menstruation depends upon a good state of general health, sound pelvic organs, the activity of certain ductless glands, viz., ovary, thyroid, pituitary, etc. We have known for some time that ovarian function was necessary, but the importance of the other ductless glands has not until recently been sufficiently emphasized.

Naturally then any derangement of the factors necessary to menstruation if severe enough will cause abnormalities in its character. And so we have dysmenorrhea due to general ill health, to thyroid insufficiency or hyper-activity, etc., etc.

Dysmenorrhea may be classfied into two large groups:

I. Associated with no demonstrable pathological lesions of the plevic organs.

II. Associated with pathological lesions. The first class is the largest, comprising according to Theilhaben[1] 75%, and by far the most interesting, for it is just these cases which have baffled us so in the past.

The second group must in most cases be treated surgically, and in accordance with the pathology found.

In order that we may intelligently and scientifically institute treatment, it is necessary that we make an accurate diagnosis, if possible, first, by taking a careful history; second, by making a careful examination. The history, needless to say, should be complete, covering the patient's general health, special systems, etc., and not confined merely to menstrual symptoms.

In making a thorough examination, one is handicapped by the fact that a large percentage of the sufferers of dysmenorrhea are young unmarried women. In these cases a pelvic examination is unjustifiable except as a last resort unless done under a general anaesthetic, and preferably per rectum. Too many women have become confirmed sexual neurasthenics through unnecessary and unprofitable gynecological tinkering, local treatments, etc.

We can, however, make a thorough physical examination eliminating other causes if possible and leave the pelvis alone unless of course we secure a history pointing strongly to some definite trouble in that region.

This is one of the very few circumstances where we are justified in that obsolete and unscientific practice of treating dysmenorrhea without making a complete examination. In some cases it is better to anaesthetize the patient at once and make sure the pelvis is clear before instituting a line of more or less experimental treatment. This is especially true if the dysmenorrhea is very severe.

The first group mentioned above may be sub-divided as follows:

(a) Dysmenorrhea due to general ill health, anaemia, chlorosis, etc.

(b) Mechanical dysmenorrhea with presupposes some obstruction or constriction of the cervical canal impeding the menstrual flow.

The main proof of the existence of such a type is the relief experienced after a thorough dilatation of the Os.

I am quite skeptical about such a condition, for I have never seen or heard of anyone who has seen the damming back of menstrual flow except in actual atresia of the cervix. One never finds any considerable amount of blood clot while curetting these cases, and while the cervix may be very small, it is always permenable to a sound or probe, allowing the passage it would seem of the thin menstrual flow. These patients often have an undeveloped infantile type of pelvic vicera and the relief afforded by dilitation, usually temporary, may be due to increased vescularity, relaxing smasm of the uterine musculature.

(c) Dysmenorrhea associated with abnormal function of the ductless glands.

At present we know little concerning this type. We do know that there is an intimate connection between them and the phenomenon of menstruation especially the thyroid gland, and of course the ovary. Just exactly how these glands influence menstruation is hard to say. Probably through the effect of their internal secre-

LITERATURE.

[1]Theilhaben—Centralblatt f. Gynak XXV.-1339.

tion on body matabolism as well as upon the uterine circulation and musculature.

Blair Bell,[2] of Liverpool, has done some very interesting and profitable work along these lines with particular reference to calcium metabolism. He has devised an ingenious method of determining the calcium index of patients blood, and has found many interesting facts. There seems to be a type of dysmenorrhea associated with a low calcium index which is readily relieved by administering calcium by mouth. I have a patient who for years suffered extremely during menstruation whose history I shall briefly give:

B. D. White, unmarried, age 20.

F. H. Neurotic. F. d. Brights.

P. H. General health poor—usual diseases of childhood including scarlet fever. Severely burned about face in infancy. Noticed swelling in neck at age of 12. Tonsilitis and tonsilectomy five years ago. Always been nervous though within the past two years disposition has become worse and she is quite irritable. Says heart palpitates often at night not dependent upon exertion.

Menstrual—Periods always painful and irregular, compelled to go to bed 3 days at least, 3 weeks, flow moderate, no clots. Had appendectomy and suspension (Coffey) 1 year ago for dysmenorrhea and pain in R. I. F. Some relief to the latter.

Leucorrhea—None. No pregnancies.

Urinary—Some irritability and frequency. Yielded to local application of Silver to urethra and trigonum.

Status praesens:

Patient comes in for nervousness, palpitation and dysmenorrhea.

On examination eyes are clear, movements normal. Throat negative. Thyroid symetrically enlarged.

Chest normal. Slight soft systolic murmurs heard over precordium. Heart beating 120.

Hands cold—marked tremors.

Pelvis and abdomen neg.

Patient has tried every remedy known for dysmenorrhea without relief.

Having just read Mr. Bell's article, and thinking she might have a calcium deficiency associated with her hyperthyroidism. I tried calcium lactate, 3 doses a day 10 grs. each, beginning 2 days before the expected onset of menstruation and continuing to its conclusion. The results were most remarkable. For the first time in her life, she was free from pain. Three successive periods yielded to this treatment. Owing to the persistent tachycardia and tremor and the other symptoms of hyperthyroidism, I advised operation and so a right lobectomy has just been done. I am anxious to see now if the removal of that amount of thyroid gland will relieve the abnormal calcium metabolism and consequently the dysemenorrhea.

Unfortunately I was not then prepared to do the calcium estimation, but since securing a calcimeter, I shall carry out that work.

Another case illustrates, I think, the effect of hypothyroidism or calcium in excess. She also suffered from dysmenorrhea all her life, unrelieved by drugs or suspension operation. The administration of thyroid extract in 1 gr. doses thrice daily completely cured her. Of course not having known her calcium index, I can merely surmise the modus operandi of the thyroid, in my cases, though Mr. Bell from his work seems quite sure of it.

I hope to be able to go into this interesting field this winter, and shall at a later date report my results.

The pituitary body also in some way is connected with the physiology of the female organs of generation. First proven by the amenorrhea in early acromegaly, and Mr. Bell has shown the value of this glandular extract in various menstrual disturbances. It must act in a different way from thyroid gland owing to its opposite physiological action.

Personally I have had no experience with it.

(d) In the fourth group we have some interesting cases. First the type known as nasal dysmenorrhea.

Wilhelm Fliess,[3] a laryngologist first called attention to it in 1893 and in 1897 wrote an extensive monograph on the subject.

He found in the nose at the anterior end of the lower turbinated bone, and higher up in a small circumscribed area the tuberculum of the septum "genital spots." These small areas are said to be invariably swollen, more prominent, bleed

[2]Bell Blair—Observations on the Physiology of th Female Genital Organs—British Medical Journal, February-March, 1909.

[3]Fliess, Wilhelm—Beizzehungen Zwischen Nase and Weiblichen Geschleehtsorganen. Leipcig. 1897, Halle, 1910.

more readily and are exceedingly hyperaesthestic during menstruation. All of these characteristics disappear as menstruation ceases.

He claimed some connection probably through the sympathetic nervous system between these spots and the genital organs. At any rate, the application of a 20% solution of cocaine to these spots relieved the menstrual pain at once, or within a few minutes.

Cases responding to this treatment were called true cases of nasal dysmenorrhea.

Brettauer,[4] in the August number of Americal Journal of Obstetrics and Diseases of Women and Children reports an interesting number of cases. None have ever come under my own observation though I have been on the look-out for some.

Harris,[5] in an April number of the Journal of the American Medical Association reports a number of cases in whom he has resected the spermatic plexus for some forms of neuralgic dysmenorrhea. This resection of sympathetic nerves for pelvic pain doesn't seem very scientific to me. It may relieve the symptoms, so would resecting the sensory nerves in alcoholic neuritis relieve the pain but the cause of dysmenorrhea in these cases, probably systemic rather than local, would remain.

The treatment of these types then is easy if we can make an accurate diagnosis, purely symptomatic if we cannot.

Prophylaxis plays a very important part in this class of cases.

Every young girl should if possible enter her menstrual life in strong and robust health. Her body should be prepared to take on its new function by proper exercises developing the abdominal and pelvic muscles, insuring free circulation to the pelvic organs. Her clothing should be suitable to the new development, avoiding pressure or ill directed and unnecessary support. Tight clothing about the trunk or legs should be avoided. Her diet should be full, free from highly seasoned, indigestible foods. Regularity in diet, exercise and rest is most important. So much for her physical preparation. The mental preparation is no less vital. She should be carefully guarded from harmful literature, sensual plays and contamnating associations. The nature of the new function upon which she is entering should be thoroughly explained to her if possible by an intelligent mother or by the family physician, not leaving the explanation of her first menstruation to some wise friend. Then knowing the proper hygiene to be observed, the meaning of the menstrual flow, she will avoid exposure to wet and cold and spare herself any great exertion, mental and physical, during this time. Many young women with proper preparation and observance of these precautions could avoid the suffering of dysmenorrhea.

Medical or non-operative treatment would include attention to general health, regulation of bowels, suitable medication for anaemia or chlorosis. For the symptomatic treatment of menstrual pain we have drugs of two classes:

First, the antispasmodics which may control excessive uterine contractions.

Second, the anodynes which merely relieve the pain.

Of the first may be mentioned atropin or belladonna, viburnum, cannabis indica, the elixirs of celery and guarana and some of the glandular extracts. Marriage and maternity have cured cases which have resisted the most conscientious treatment.

In the second class one may have his choice from sodium bromide, aspirin, acetphenetidin, phenyl salicylate, etc., to condeine. The opium derivatives I'm reluctant to use. Counter-irritation applied over the lower abdomen and back may give relief. Cupping or light touches with the Pacquelin cautery being most valuable.

Of course we may use any number of combinations of these remedies.

II. Cases of dysemenorrhea associated with demonstrable pathological pelvic lesions usually require operative procedures.

(a) Retroposition of the uterus is a common cause, especially in multiparous women. About 90% who have this condition are suffeers of dysmenorrhea.

(b) Pelvic inflammatory disease. About 40% of pelvic inflammatory conditions are associated with painful menstruation.

(c) Myomata uteri.

Strange as it may seem the severity of the symptoms bears no relation to the extent of the lesions. The presence of a

[4]Brettauer, Joseph, Dysmenorrhea Relieved by Nasal Treatment. The American Journal of Obstetrics and Diseases of Women and Children, August, 1911.

[5]Harris, M. L. Resection of the Lpermatic Plexus for the Relief of Certain forms of Dysmenorrhea. Jour. A. M. A. Vol. LVI, No. 15, April 15, 1911.

few light adhesions, binding down a tube or ovary may cause extreme suffering, and a patient with advanced pelvic inflammatory disease may be entirely free from pain. Small myomatous nodules may be responsible for severe dysmenorrhea, and these symptoms may be entirely absent even with large fibroids.

Operative teratment: Naturally this will depend upon the condition present. As mentioned above dilatation and curettage seem to improve temporarily at least certain cases where one finds an infantile type of pelvia visera, or where there is a small conical constructed cervix.

Emphasis should be laid on the fact that this operation is a major one and should be done by one capable of dealing with any possible complication met with, under the most rigid aseptic conditions. Sometimes excision of a small piece of cervix is necessary.

When retroposition exists it should be corrected. Many operations have been described. At the Johns Hopkins we used a modified Gilliam. I reported the results of a series of our cases in October, 1910, number of the American Journal of Obstetrics.[6] The conclusion was that the operation was unsatisfactory, in that only 66% were relieved of the symptoms of retroposition.

Coffey,[7] of Portland, has gone into the subject from its underlying principles, in Surgery, Gynecology and Obstetrics. (Oct. 1908.) He thoroughly reviews the field and describes an operation which certanly looks good and which we are now using. It is application of the round and broad ligaments on the anterior surface of the uterus.

If a mild pelvic inflammatory disease is present, some conservative operation with the release of adhesions may afford relief in severeer cases, radical measures may be indicated. In cases associated with fibroids, myomectomy or hysteromyomectomy should be done.

Sometimes one meets a case which resists all conservatism and yet no gross pathological evidence is present.

At a last resort hysterectomy may be done, although one is loath to deprive a young woman particularly if she be nulliparous of the priceless hope of maternity.

[6]Branch. J. R. Bromwell. The Results of a Modified Gilliam Operation for Suspending the Uterus by the Round Ligaments. The American Journal of Obstetrics. Vol. LXII. No. 4. 1910.

[7]Coffey, R. C. The Principles on which the Success of the Surgical Treatment of Retrodisplacements of the Uterus Depends Surgery. Gynecology and Obstetrics. October, 1908.

DISEASES OF THE MOUTH.

Robin Adair, D.D.S., Atlanta.

Diseases of the mouth are due more consideration in Medical treatment. Text books barely mention the names, and the fact that subject is not stressed in the Colleges, is responsible for the almost universal neglect of this field. This neglect often results in loss of masticating surface, part of a jaw, or even death of the patient.

The first I mention of these diseases is Neoplasms. The physician is accustomed to seeing large growths and severe symptoms in other parts of the body and overlooks the little "bump" or "ulcer" that the patient calls attention to in the mouth. The surgical record of any hospital gives a long list of horrible operations and many deaths that might have been prevented by immediate attention to all growths that may have been suspicious.

The cause of these growths is often of dental origin, bad bridge work, sharp edges of teeth or tartar—Certainly I urge that the dentist should be consulted, but they are not prepared to make a correct diagnosis, for they cannot make a blood count or a microscopical section. The custom of treating such cases with irritating drugs is to be condemned, as it only adds fuel to the fire. If indicated, prompt removal should be made at their inception, as delay in this region is more dangerous than in other parts of the body.

Diseased Gums.

The next class of diseases to which I specially call your attention is those of the alveolar process and gums. Symptoms range from simple gingivitis when the gums are red and bleed at the slightest touch to the advanced stage when there is a constant discharge of pus with destruction of tissue and impairment of health. **Names** and **Definitions** range everywhere from Riggs disease, Pyorrhea Alveolaris, Infectious Alveolitis, Cementoperiosititis and calcic inflammation, Blenorrhea Alveolaris, Hematogenic-pericementitis, Phagademic Pericementitis, Interstitial Gingivitis, Diabetic Pyorrhea and

many others too numerous to mention, all describing some phase of the same condition.

Causes—The causes are given as both consitutional and local—several under the head of constitutional are—general condition of health. Heredity, constitutional disorders, excessive lime salt secretions, uric acid states, toxic agents introduced into the system. The local causes are germs, meat eating, lack of proper attention to mouth during sickness, but the greatest responsibility lies under the head of uncleanliness.

Pathology—The alveolar process is not true bone, but a transitory structure. Its only purpose is to support the teeth, and when they are lost, its function and use is over and it is absorbed. The alveolar process is also an end organ, in that numerous blood vessels end in its substance. Having no free circulation, all poisons quickly accumulate in its substance and congestion follows. On the other hand, outside irritants as tartar, sordes, etc., cause a congestion with resultant absorption and exfoliation of the teeth. The early stages present a very red inflamed gum margin, which bleeds at the slightest touch. The appearance of the next stage is more difficult for the physician to diagnose. The redness may have disappeared, but the gums have a puffed appearance and do not cling to the teeth. A probe can easily be passed to considerable depth between the teeth and gums. The latter stage is absorption of process, recession of gums and loose teeth.

Symptoms—The first symptom noticed by the patient is bleeding of the gums when brushing the teeth. There is rarely any pain at any stage of the disease, and its development is so gradual that the patient is surprised when told of the condition. From the incipiency to the last stage may be passed without the patient being aware of any trouble. Length of development may extend over a period of ten years—children as well as adults are susceptible.

Complications—Complications are numerous and more severe and serious than the disease itself, with the result that the physician more often treats the symptom instead of getting at the real cause. Just a few cases to illustrate this. Mr. —— a wealthy Jew of about fifty years of age, referred to me by a surgeon who had recognized Pyorrhea Alveolaris as the cause of his run down condition and extreme nervousness, indigestion and indicanuria, I made a date for operation which patient afterwards cancelled, giving his reason that a general practitioner of medicine had convinced him that his condition would not admit of the operation, and that a trip to Europe was the one thing for him to do at this time. I wonder if this Doctor evacuates all his abscesses and removes necrotic tissue by trips to Europe. Not a bit of it and he should have advised differently here, for the man's mouth was a mass of necrotic tissue with a discharge of pus into it of about one ounce, which he had swallowed each day, poisoning the system; and yet a simple operation which would have brought immediate results like removing a splinter from suppurating finger.

Mrs. H——, a wealthy lady of large and corpulent statue was under care of a physician, who was treating her for kidney trouble. No examination or treatment was advised for her mouth. She came to me for an aching molar. On examination, I found one ofthe worst infected mouths I ever beheld. Decomposed bread particles packed in pockets between teeth—gums flabby and greatly congested. One week after treatment the indican had about disappeared and her general health was greatly benefited.

Mrs. ———— had entered into a contract (two months) with a stomach specialist. No examination was made of her mouth. Soon after arriving in the city she came with a friend who had an engagement at my office. Out of curiosity I suppose, she asked for an examination of her mouth to see if any fillings were necessary. The mouth presented a bad case of Pyorrhea Alveolaris, and without knowing that she was under treatment, I described to her the complications which might happen and the benefit of an operation. She took my advice and improved so rapidly that she returned home in three weeks and has been well ever since. Needless to say the stomach man got the credit for a wonderful and speedy cure—when the truth was that he would have been treating her for two months if her mouth had not been attended to.

Diagnosis—The physician probably sees more of these cases than the dentist, in that the general symptoms are those for which the patient seeks relief and treatment. The physician looks into the mouth, but the top of the tongue is not all he should examine. My earnest advice and the purpose of this paper is to urge you to extend your field of vision to the gums. A little endeavor in this direction, and a few consultations with a dentist will soon give you a knowledge of the diagnostic points. The diagnosis is made from the symptoms and Pathological Anatomy above described.

Treatment—The local surgical treatment is the work for the dentist. In this paper, I refer only to that period which the mouth of patient is under the care of the physician, who should refer the patient to the dentist as soon as practical. Says Dr. Agnes de Lima, of the Bureau of Municipal Research of New York, "Doctors still prescribe tonics for invalids whose diseased mouths are draining their vitality more than any other cause. Fortunes are spent to attempt to cure tubercular patients, who reinfect themselves every time food, medicine and saliva pass over their diseased cavities and gums. Millions are spent on purifying the water supply and the soils. Medical Institutions are endowed to stamp out the contamination of food and air by 'pathogenic bacteria,' but the prime breeding place for germs (the human mouth) is uncared for."

Many of the so-called throat, eye, stomach, intestinal, liver and kidney troubles are due to a diseased mouth. And all the medicine and medical treatment in Christendom cannot cure them. They must have attention to the mouth if you expect them to be restored to health. The worst part of the picture is so many mouths which were in a normal condition before their illness soon after convalescence develop diseased gums, just because the physician had not given proper attention to this organ while it was under his care. In this connection, I wish to quote from a paper read recently before the Fulton County Medical Society on "The care of the teeth during sickness." A sick patient seems to lose sight of what little care he formerly gave his mouth. He loses the cleasing advantages incident to vigorous chewing, drinking, of exercise and areation of the mouth. With the result that it soon becomes a hot bed of filth and disease, making a human culture tube, with all conditions of heat, moisture and food. It would be impossible for the Bacteriologist to construct a better or more prolific breeding place.

The description is not over drawn, and every physician should know that if this condition is changed, the patient stands a better chance for recovery. The gauze method is dangerous, while the tooth brush is a necessity. The texture of the brush should be of the soft grade.

I wish to close this paper with a quotation from Dr. Talbot, of Chicago, giving his excellent prescription. "Patients present themselves with factor of the breath, pus about the teeth, diseased gums, ropy saliva, with all forms of bacteria——— which are taken into the stomach at every swallow and pass through into the intestines———. In order to reach the deep seated diseases of the gums iodine alone would penetrate the bone———. The official tincture of iodine contains 70% of iodine dissolved in alcohol, to which is added 5% of potassium iodine. This preparation if used often will cause the mucous membrane to become tender and raw, it will also in some patients, destroy the mucuous surface. To overcome this difficulty, many years ago I formulated the following, which I have called Iodoglycerole:

Zinc Iodine	15 parts.
Water	10 parts.
Iodine	25 parts.
Glycerine	50 parts.

As compared with the ordinary tincture of iodine its astringent properties are greatly increased, the glycerine causes a rapid absorption and the irritating effects are reduced to a minimum. The penetrating effect is remarkable. Long, round wood applicators with cotton wound on one end is saturated with this preparation and the gum margin above and below painted. The lips and cheeks are held away from the jaws until the iodine has dried. Frequent applications will destroy all germs in the mouth and reduce mouth and general disease to a minimum.

In Conculsion—Examine the teeth and gums with more care. Be careful of the

"bumps and ulcers." Instruct patient in Oral Hygiene—and lastly, use the Iodoglycerole treatment for all suspicious mouths, and I feel sure that the time you have spent in listening to the paper will not have been spent in vain.

THROMBOSIS OF THE CAVERNOUS SINUS WITH REPORT OF CASE.

H. H. Martin, M.D., Savannah.

Roswell Park in introducing the subject of Sinus-Thrombosis says: "By virtue of their construction the sinuses are predisposed to thrombosis. Their size, the inflexibility of their walls, their typical shape, the trabeculae occasionally found in them, the fact that they are not emptied during respiration, and in some instances the direction of the blood-current which enters them, all tend to retard the flow and predispose to coagulation. If to these be added deficient blood-supply, then everything predisposes toward marasmic thrombosis.

"This occurs less frequently than the infective, and is almost always met with in the longitudinal, rarely in the basal, sinuses. It occurs most often in marasmic individuals, and is noted most often at the two extremes of life. Exhausting diarrhoea is one of the most common causes in children, although conditions which bring about dilatation of the right side of the heart are alse frequently operative.

"The other variety of sinus-thrombosis is infective thrombosis and is due exclusively to the invasion of pathogenic bacteria. It occurs most often during middle age, occasionally in the very old or very young. It usually is met with in one of the basal sinuses. Its origin is local, it being always secondary to same external infective lesion, and it occurs at the point nearest to the primary source of infection. It may be due to lesions of traumatic origin, such as occur after compound fractures, etc. The most frequent cause is middle-ear disease, and, consequently, the sigmoid sinus is the one most commonly affected. Carbuncles of the face are also frequently followed by sinus-thrombosis, as may also be erysipelas or infective cellulitis or nasal ulceration. Infective periostitis due to dental caries, tonsillitis, and retropharyngeal abscess have also all been known to be sufficient causes for sinus-thrombosis, usually of the cavernous sinus.

"Infection may be propagated by mere continuity of tissue, or the elements of infection may be carried by the circulation."

The case which I have to report was an infective thrombosis of the left cavernous sinus following what was called a "Rising in the nose," and is of great interest to the general practitioner of medicine for the reason that such cases may occur in any ones practice at any time. In fact a careful study of the anatomy and physiology of the sinuses of the brain especially the cavernous leads one to wonder that this condition is not of more frequent occurrence.

E. C. Ellett in reporting three cases of infective thrombosis of the cavernous sinus has made an exhaustive review of the literature on that subject and the following paragraphs are taken verbatum from Ellett's paper.

"The literature on this subject is not abundant by any means. Dwight and Germain append an extensive biblography to their report of 4 cases, and were able to find 178 cases, with their 4, making 182. I would refer those interested in the literature to this article. The importance of the condition lies in its great mortality, only 14 of these 182 cases recovering. In septic cases the prognosis is always bad. Since this collection of cases others have been reported by Day, Lodge and Finlay.

Day's patient was a child of 11, suffering with chronic purulent otitis media and mastoidis, both of the right side. Five days after operation the right eye was swollen, and thirteen days later the left eye was similarly involved. Fluctuations in the temperature seemed to be due to retention of pus in the mastoid wound, and though both comea ulcerated the child recovered, leaving the hospital at the end of four and one-half months. Largely on account of recovery, Day thinks the thrombi in the cavernous sinuses must have been non-infective and ultimately absorbed. Its association with mastoid disease he regards as a coincidence. The lateral sinus was not involved, though cases have been observed where the infectious process spread from this sinus to the cavernous by way of the superior petrosal.

Lodge's case was a married woman, aged 41. The trouble originated in the left peritonsillar region, spreading to the cavernous sinus of the left side by way of the pterygoid plexus. Pus was found on incision back of the last molar tooth, and later a purulent discharge came from the left nostril. The antrum of Highmore was healthy. Autopsy verified the diag nosis, there being septic thrombi in both cavernous sinuses and pus distributed pretty well over the base. The sphenoidal sinus was full of pus, other accessory sinuses healthy. He thinks there was a primary marasmic thrombus of the pterygoid plexus which became infected from the mouth.

In Finlay's case all the symptoms pointed to mastoid and lateral sinus disease, complicating acute otitis media. On the operating table swelling under the left superior orbital margin led the operator to diagnose a complicating thrombosis of the cavernous sinus. The lateral sinus was found healthy and the mastoid practically so. Autopsy showed a purulent clot of the cavernous and circular sinuses, extending to the left ophthalmic vein, and pus in the sphenoidal and pos terior ethmoidal cells. No symptoms of nasal disease had ever been complained of. Finlay remarks that "one can scarcely seriously contemplate reaching the local lesion through the orbit by means of a craniectomy."

By far the most lucid and satisfactory exposition of the subject that I have seen is in McEwen's "Pyogenic Dieases of the Brain and Spinal Cord," and what can be said on the subject in general is excellently said by him.

The cause of this condition, i. e., septic thrombosis of the cavernous sinus, is any infected lesion in the area drained by the ophthalmic vein or its branches. Pustules on the face, nostrils, eyelids, etc., purulent affections of the accessory sinuses, pharyngeal or buccal cavities facial erysipelas, infected wounds of this region, etc., may be the cause. Here we encounter the first important point, which is the necessity of care and cleanliness in dealing with pustules or other infected lesions of the face. Two of my three cases resulted from lesions which the rhinologist sees almost daily and which most of us have personally experienced.

The symptoms naturally divide themselves into (1) the local and (2) the general. The general symptoms are those of sepsis under any and all circumstances. The local symptoms may, following McEwen's Scheme, be divided into (a) those due to venous obstruction, and (b) those due to pressure on the nerves. Venous obstruction causes edema and chemosis of the affected area, viz., the orbit, the skin of the nose, forehead, cheek and sometimes fauces, pharynx and neck. We have seen in Case 2, that necrosis of the skin may ultimately result. The exphthalmos, which is a prominent symptom, is due to engorgement of the tissues of the orbit.

Pressure on the nerves causes characteristic symptoms. The nerves involved are the second, third, fourth, sixth and the ophthalmic division of the fifth. The visual disturbances are usually very marked, due to pressue on the optic nerve and edema of the retina, while the motor disturbances are most pronounced in the parts supplied by the third. We have seen the dilated pupil, divergent squint and ptosis in the cases reported. The ophthalmoscope shows dilated and tortuous retinal veins and edema of the retina. The disturbances due to pressure on the fifth are variable.

A very important and characteristic symptom arises from the fact that while the trouble is unilateral at first, the thrombus soon spreads to the other sinus, and obstruction and other symptoms appear in the areas drained by it. The edema of the lids of the second eye, beginning at the inner canthus, and not due to direct extention; the parts at the root of the nose lying between the eyes being normal, is very characteristic.

The diagnosis must be made from tenonitis, orbital cellulitis and facial erysipelas. If attention is once drawn to the condition under consideration the diagnosis is not difficult, and it is for the purpose of calling your attention to it that I have presented this report.

The prognosis in septic cases is, I believe, uniformly bad. In one of the series reported by Dwight and Germain, operation was performed and they think the results are promising.

Hartley demonstrated its feasibility in Knapp's well-known case, but the question is probably one for the general surgeon, and no general surgeon who saw any of these cases entertained the idea

of operative treatment. Since the prognosis otherwise is absolutely bad, it seems to me proper that operation should be tried. Other than this the treatment is supporting and symptomatic.

Dwight and Germain stand alone in in their advocacy of operation, but it is to be hoped that their encouraging results will lead others to give the matter a trial. "There is nothing to lose."

I first saw the case I have to report with Dr. J. C. Harris, of Collins, Ga., about noon Feb. 22, 1911. The clinical history is as follows: Patient had had what he called a rising in the nose ten days previously. (Feb. 13th). This pustule or feruncle which ever it was ruptured spontaneously Feb. 15th.

Pain about the nose was complained of continuously, swelling about the inner canthus of left eye was noticed Feb. 18th, this rapidly increased and on the 19th, there was distinct exophthalmos, dilated pupil, conjunctival chemosis with paralysis of external occular muscles, great oedema of forehead, cheek and orbit; superficial veins distended and tortuous. This condition continued to grow worse until the 21st, when the same symptoms began to manifest themselves on the right side and as Ellett puts it this was unquestionably an extension of the thrombus to the right cavernous sinus and not an extention of the oedema across the forehead as the tissues at the root of the nose remained comparatively normal, while the swelling began at the inner canthus of the right eye and persued a course exactly similar to that in the left eye, Temperature, pulse, etc., being typcially septic from the start.

When I saw the patient on Feb. 22d, the conditions above described were much in evidence, there was complete oculo-motor paralysis on each side a blue oedema of the face, forehead and neck, chemosis of the conjunctive, dilated and tortuous veins in and under the skin.

There were no fluctuating areas at all and the external condition remained a venous stasis from the beginning to the end, without visible pus formation, although Dr. Harris informs me that there was a discharge of pus from the nose after death and that the eyeballs began to recede immediately after death. The exopthalmus disappeared entirely within a few hours and within 24 hours the appearance and location of the eyeballs were normal. This has not been noted in other cases so far as I know. The patient complained of pain in the head continuously worse in the occipital region but was conscious or could be aroused to consciousness up to within a few hours of death. He was totally blind but the fundus showed no changes other than distention and tertuosity of the veins..

He died on the 23rd, just ten days after the appearance of the pustule or feruncle in the nose.

DISCUSSION ON DR. MARTIN'S PAPER.

Dr. Dunbar Roy, Atlanta: A very large interest in the subject presented by Dr. Martin comes from the fact that these cases are exceedingly rare. I do not believe that I have had a single case of thrombosis of the cavernous sinus. This is an exceedingly rare condition. Yet the case just reported certainly leads us to the fact that it is exceedingly important that we should take into consideration the possible results of all supparative and infectious conditions about the nose. I think we are too much in the habit of considering the mucous membranes of the nasal cavity impervious to infectious conditions which will lead to bad results. It has been shown that nearly all infections which have occurred take place through the upper part of the nose, and more especially through the cribriform plate of the ethmoid bone which is so close to the cavernous sinus. In any serious infection of the nasal cavities we should bear in mind the danger of infection or invasion of one of the adjoining sinuses. Certain conditions arise in our every day work that cause us trouble unless recognized. The man who studies hard, attempting in every case to arrive at a correct diagnosis, is the one who is going to succeed in the practice of medicine.

I have recently seen a case, the like of which I have not been able to find in the literature; I am going to try to find out if there has ever been reported such a case. The case shows that there can be an infection about the face and head resulting in an infection of the sinuses. The patient had furunculosis of the external auditory canal. He had one or two points

of suppuration and these were opened. He then suffered a great deal of pain. He had the usual symptoms that followed the course of boils of the external auditory canal. The very severe symptoms, however, disappeared as well as the pain. In a short time there appeared similar symptoms in the other ear. The drum membrane was incised and pus was found. I considered this to be due to boils in the external auditory canal and looked upon it as I would such a condition appearing on the outside of the head and, therefore, I thought little about it. Although the left ear gradually became better, there still remained the pain. The pain was very intense especially on the top of the head. A consultation was called for. The patient had to be kept under the influence of opiates. The temperature went up in the afternoon, but came down again in the morning. The patient had only one distinct chill. There were none of the symptoms of any suppuraitve condition. From the blood count and other diagnostic factors it was shown that there was some suppurative process, probably in the brain. There was without doubt some suppurative process somewhere in the brain. The patient went from bad to worse. He was believed to be suffering from malaria, but the malaria organism was not found. He improved somewhat under the use of quinine. He had no mastoid trouble. The patient became worse, had a very high rise in temperature, became comatose and died.

At autopsy there was found a thrombosis due to the staphylococcus (not to the streptococcus); this occurred on the one side only; on the other side was found a thrombus but this was not infected. There is no doubt but that the condition described was caused by infection from the furunculosis of the external auditory canal, the infection being carried through the lymphatics. I have never heard of a similar case.

There is one great lesson of importance to be learned from the recital of such a case; in every infective process of the face or head, there is always danger to the individual; these cases should not be treated by us in such a trivial manner. It should be born in mind that these pathegenic germs may get into the lymphatics; the lymphatics act as emissaries; there may then be produced a thrombus which may lead to the death of the patient.

Dr. E. C. Cartledge, Atlanta: I have been much interested in a case that came from southern Georgia; a typical history of typhoid was given which existed for three weeks and then the patient was supposed to be suffering from malaria. The fever and chills were quite characteristic. Several doctors were called in consultation. However, there was found an old middle ear trouble which the patient had had all his life. But there were no local symptoms. There could not have been any infection from the mastoid. It was also thought that he was suffering from a cholecystitis. The patient at last became very septic, developed a temperature of 105 and died. There were no local evidences to be found. At post-mortem, after hunting everywhere for the seat of trouble, the sigmoid sinus was found containing pus.

Dr. H. H. Martin, Savannah: I wish to impress upon you the importance of infection being carried from the face, neck and throat to these sinuses; the cases with such infections should be handled with the utmost care. Whenever you meet with patients with boils or furuncles in the external auditory canal, be on your guard.

APOMORPHINE AND ITS USES.

S. A. Visanska.

In looking over the proceedings of the Medical Association of Georgia for the past few years, I was astonished to find so few subjects written on Materia Medica, therefore, I am bringing this one to your attention, with the hope that it will not only stimulate others in this important branch of Medicine, but that the alkaloid Apomorphine will be used much oftener in the future than it has been in the past.

Some years ago, I had published in the New York Medical Record an article on this same subject. At that time, this alkaloid was practically unknown to many and rarely if ever used. Quite a discussion appeared for some time in this and other Journals, which proved very interesting. I have now re-written and tried to bring the subject up to date. It is for this rea-

son, as well as for the many beneficial effects upon the human system that Ie desire to direct you attention today to this subject.

Apomorphine hydrocholorate,, the preparation in use, is an artificial alkaloid, prepared from either Morphine or Codine. Its chemical formula is C_{17} H_{17} NO_2 according to the reaction C_{17} H_{19} NO_3—H_2O=C_{17} H_{17} NO_2. It should be kept in small, dark, amber colored vials. The earlier books state that Apomorphine is a powerful emetic, nothing more. I shall endeavor to show further usefulness, and that while this compound is derived from morphine, it is devoid of narcotic properties. The usual dose as an emetic is one-fourth of a grain by the mouth, or one-twentieth to a tenth hypodermically.

Physiological Effect—Experiments upon animals have shown the physiological action of Apomorphine to be varied, and from them we learn that the drug first excites the cerebral centers and subsequently depresses them; that in poisonous doses it causes convulsions probably of spinal origin; that it acts as direct muscle poison in causing paralysis; that it may increase the rapidity and force of the heart's action, and in larger doses causes depression. That it first increases the rapidity of respiration, and after weakens it, death resulting from respiratory paralysis. In **man** these symptoms are seldom or never observed, and clinically its most important effects are seen in its action upon the vomiting center, upon the circulation and upon the bronchial secretions. Apomorphine hydrochlorate acts as an emetic by its effects upon the vomiting center in the medulla only, and this is the case whether given subcutaneously or by the mouth. It is thus entitled to be considered a "systemic" or "centric" emetic. The superiority of the drug over other emetics lies in its rapidity and certainty of action, in the relative freedom of its action from accompanying nausea and depression, in its unirritating quality if properly and freshly prepared, which renders its hypodermic administration admissible, and in its great efficiency when so given and its very important value when swallowing is impossible. Moreover, if emesis is produced by its subcutaneous administration, the gastric irritation to which other drugs owe their power as emetics is avoided. It will produce vomiting if given by the mouth, but only at the expense of a larger dose and a longer time. Upon the circulation, Apomorphine hydrochlorate in small or moderate doses usually produces little or no effect; exceptionally, however, after moderate doses and not rarely if the dose is large, circulatory weakening and embarassment follow; and caution should be observed in giving it to children and debilitated adults. The size of the dose must be judged by the attendant, who will consider the condition of the heart, respiration, etc.

Uses—In puerperal convulsions no drug is so highly lauded as Apomorphine given subcutaneously. It has almost taken the place of morphine and other narcotics, and its action here depends not upon the emetic power, but on the general relaxation of all the muscles, and I contend that as long as there is relaxation of the system a convulsion cannot take place; therefore, the drug should be used when we have a threatened case of puerperal convulsion or if we arrive at the patient's bedside during one of these unsightly and distressing attacks. The dose should not be large enough to produce emesis, but just enough to thoroughly relax the system. I generally begin with grain 1-60 to 1-40 subcutaneously, and if the desired effect is not produced in thirty minutes the dose is repeated. It is useless for me to go into the further treatment of this symptom, which is so familiar to all. The point which I wish to make clear is the relaxing effect of the drug, if not pushed too far. In epilepsy a hypodermic of Apomorphine will prevent or cut short an attack, according as it is given before or during the fit. It can also be used as an anti-spasmodic in many other diseases. In hysteria Apomorphine is my sheet anchor, especially during the convulsive stage, where we find the patient crying or laughing, a contraction of the hands or feet, body stiffened, breathening scarcely perceptible, patient seems unconscious as to surroundings and passes into a stage of catalepsy. You usually find the relatives scared "out of their wits," they tell you the patient has lost the use of her hands and limbs, cannot speak, scarcely breathes. To relieve this in a few minutes is a great piece of medical skill. A hypodermic of 1-20 of Apomorphia will in a few minutes bring about a general relaxa-

tion of the body, then emesis, and often we find the stomach over-loaded with food, (perhaps the cause of the attack), the patient soon gains consciousness, is able to speak and breathe, has the use of her limbs, and the physician has performed a wonderful feat; this drug has never failed me in such cases and is worth trying.

In the treatment of tetanus, on the suggestion of Dr. Bomford, of Calcutta, doses of 1-10 to 1-4 of a grain subcutaneously twice or three times a day were given, and the results were not disappointing. This same physician had a case of hiccough in a man fifty years of age. He had suffered from it for about six months, and the acts numbered 30 to 40 a minute. He had been a well-built man, but was reduced to a skeleton. He had tried a lot of native medicines without relief, and Dr. Bomford's predecessor had prescribed for him almost all the drugs of the pharmacopoeia, without the slightest good. Dr. Bomford subsequently tried atropine, morphine, by the mouth and subcutaneously, bromide of potassium, camphor, chloroform, emetics, a mustard plaster over the region of the diaphragm and a host of other measures without the least good effect. He then gave hypodermically 1-4 of a grain of Apomorphine dissolved in 107 parts of water. In less than three minutes the symptoms subsided, and in five minutes more the patient vomited. He was not troubled with the symptoms for two days. On the third day it returned, but was less troublesome. Another 1-4 of a grain was given hypodermically, causing vomiting and retching the entire day, but the hiccough never returned. An bronchial Asthma Apomorphine affords almost instant relief. when the attack has come on and the patient sits at an open window gasping for breath with a feeling of constriction over the entire chest. It acts in this instance by the relaxing effect, and takes the place of morphine and other narcotics which are so dreaded because of the habit often acquired. I am yet to hear of the Apomorphine habit. Few asthmatic patients go through line without acquiring the mor phine habit, and I wish to lay great strees upon the use of Apomorphine in this disease. In catarrhal laryngitis, especially the severe form, the use of Apomorphine in small doses will often save the life of the little patient, and it does this by its relaxing property, and also its effect upon the mucous membranes, loosening the secretion and subsequently causing vomiting of the same. Of all the diseases of childhood croup is one of the most distressing and calls for hasty action by the attending physician and a hypodermic of Apomorphine will do well, either as an abortive or when it is desired to rid the larynx of the thick tenacious secretion already accumulated, and thus also preventing the operations of intubation and tracheotomy. In these cases a minute dose of Apomorphine should be given, say, for a child from two to four years of age 1-100 to 1-80 of a grain hypodermically, to be repeated when necessary. In all forms of Bronchitis in which the cough is dry and secretions scanty, and especially in pneumonia it takes the place of alkalies to free the secretion. In acute alcoholic delirium, you can always depend on Apomorphine to bring instant relief, it relaxes the system, unloads the stomach and does it in a few seconds. In cholera morbus a hypodermic of Apomorphine will instantly rid the stomach of all irritable and undigested matter, and by giving a few tumblers full of hot water the stomach is thoroughly cleansed. In poisoning of any kind, when we desire to rid the stomach of its contents, nothing can take the place of a hypodermic of Apomorphine given subcutaneously. These are a few instances in which this mast valuable alkaloid his given excellent results and I trust will be of some benefit to you in your practice. It should certainly take the place of all other emetics, and push ipecac, tartar emetic mustard, etc. to the background.

This might bring out a discussion as to when it is best to given an emetic; in connection with this will read you a card from Dr. F. W. Van Dyke. Grant's Pass, Ore. "I have read the articles in the Medical Record relative to the virtue of Apomorphine, and wish to state that in two cases of morphine poisoning I found it perfectly useless. In each case, I injected one-tenth of a grain, and in one case, repeated the dose in a little while, but could get no result at all. My idea is that the narcotic effect of the opium deadens the vomiting-center so much that Apomorphine will not excite it. Both of these patients vomited after taking

ipecac and zinc sulphate in warm water. I have every reason to think that the Apomorphine was good, as it was from a first-class house."

My reply was thus: "I read with interest Dr. Van Dykes' note upon the use of Apomorphine with negative results in two cases of Morphine poisoning. Dr. Van Dyke gives as a reason why the Apomorphine did not produce vomiting that the opium, in his opinion, had deadened the vomiting center. I am surprised that Dr. Van Dyke should have used an emetic in these cases, as the morphine was entirely absorbed, and one cannot vomit morphine or any other poison out of the circulation. I have never had any but good results with Apomorphine, either as an emetic or as an anti-spasmodic, and I always use it when indicated. Dr. Van Dyke says that ipecac and sulphate of zinc in warm water caused vomiting when Apomorphine failed. But when the reflexes are deadened to one emetic, surely they are to the others. Perhaps the Apomorphine used in these cases had been kept on hand for some time and had lost its properties. Every day new preparations are being thrown upon the market, and the physicians of today are eager to grasp them. The trouble is they are not familiar with the old drugs, for there are enough official preparations now. I think the alkaloid Apomorphine has been kept in the hypodermic case until mouldy long enough.

DISCUSSION ON DR VISANSKA'S PAPER.

Dr. George M. Niles, Atlanta: Some of our students imbibe too much the idea of therapeutic nihilism such as was fostered in this country by a man now living abroad, Dr. Osler. From the doctor's point of view, we desire a diagnosis; we want some scientific ground-work. But what the patients want is treatment properly applied. The patient is not interested so much in what is the matter with him, but he is interested in knowing how long he is going to be sick and what we are going to do for him. Of course studies in therapeutics are of interest to us all. I think that Apomorphine is a good and serviceable drug in many conditions; the effect of it on the nervous individual we all know well, especially on the hysterical person. Also its effects on the stomach when it is overloaded. Also it has a good effect after a man has been on a debauch, when he has looked upon the cup that is red too often, and then the cold, grey dawn. Then we get finer results from the proper dose of Apomorphine. Fill the stomach with water, follow this with your dose of Apomorphine and it will be like bringing up your immortal soul.

Dr. E. C. Thrash, Atlanta: I have used Apomorphine for many years but I never could understand why so soon after being made it should turn to a greenish color. However, I have used it when I knew it to be at least four years old and I have gotten as good results from it as though it had been freshly prepared. I should like to know what chemical change takes place to produce his green color.

Dr. Moses T. Fort, Hawkinsville: I have had one case of Apomorphine poisoning occurring in a middle aged man who was suffering from migraine. He had more or less nausea and said that he would be relieved if vomiting could be induced. He was given one-tenth of a grain of Apomorhpine after he had taken several glasses of water. He soon threw his head back and respiration ceased. Artificial respiration was employed for a few minutes and he was given a hypodehmic injection of strychnine. He never vomited but he did retch some. For three-quarters of and hour he was wild but he soon became quiet. It took him three or four days before he felt right again.

The green color of the Apomorphine cuts no ice. I have always found that small doses of this agent is good in cases of nausea.

Dr. E. C. Cartledge, Atlanta: I have been impressed for a number of years that too much morphine has been administered to patients. It has the one advantage of relieving pain; I do not think it has any other advantages; it only relieves pain. We should have an agent which has not the objections that morphine has and I think we have such an agent in either Apomorphine or Veratrum. I have had quite a happy experience with both these drugs. However, I had a patient once who was given one-fortieth of a grain of Apomorphine and he nearly died; since then I have been more watchful regarding

this drug. I am using Veratrum more today. Apomorphine has a quicker effect but it is transitory. Veratrum has a more prolonged effect. Veratrum has a place and I think, in many instances, it is better than Apomorphine. Especially in cases of meningitis, Veratrum is better. It has a very relaxing effect. It also has an effect upon the kidneys which Apomorphine phine has not. I have had cases of eclampsia; hot packs were given, hot drinks were given in order to bring about elimination; then I have had to hurry back to such patients because of spasm. In such cases there is a very good field for the use of Veratrum. I have in mind two cases, and they were hot and heavy. In one I gave Norwood's tincture; the patient improved so much under this that I was enabled to get her to the hospital. This patient, however, died.

THE TREATMENT OF CANCER OF THE BREAST.

Frank K. Boland, M.D., Atlanta.

Because of its importance to the longivity of thousands of women, a discussion of this subject is pertinent in any gathering of medical men. The treatment of cancer of the breast consists in the complete removal, in one mass, of the gland and tumor, and every particle of adjacent diseased tissue, apparent or suspected including the skin, both pectorial muscles. lymphatics, fascia, fat and connective tissue. With our present knowledge, no other treatment than this offers the slightest chance of a cure. No drug, externally or internally, will benefit the condition, and the X-ray has been found to be futile.

The success of such operative treatment depends almost solely on its prompt performance in the presence of the disease. A considerable proportion of patients with breast tumors sacrifice their lives to pride, modesty or fear, in not making their ailment known until it is too late. The lives of another larger proportion lie in the hands of the man who makes the first examination—he who diagnoses most of our cases—the family physician. How vital is it, then, for this man, the most valuable member of the profession, to ever be on the lookout for this insidious foe. His is the most difficult task—to recognize the disease in its incipiency. To know it when well advanced is usually too easy.

A reasonable suspicion of mammary carcinoma in a woman past thirty should constitute sufficient grounds for the performance of a radical operation. If a mistake is made in calling a benign tumor malignant, the woman loses her breast; if a mistake is made in calling a milignant tumor benign the woman loses her life. I know of two breast tumors which were diagnosed cancer by competent men more than five years ago, and operation advised and refused. The patients still live to laugh at their doctors and send for them no more. But when we consider that statistics show us that one half of all benign tumors later become malignant, the joke on these physicians may yet culminate in tragedies for the patients.

These same competent physicians, according to our statistics, would not make this mistake more than one in ten times were they to call all breast tumors malignant. The best authorities are agreed that from 80% to 85% of all tumors of the breast are malignant to begin with, and one-half of the remaining 15% or 20% will become malignant if the patient lives long enough. These are fearful figures and have deep significance for every man engaged in the practice of medicine.

The diagnosis of breast cancer as we generally see it is not difficult. The history and age of the patient, the fixed tumor, retracted nipple, dimpled skin and enlarged axillary glands make a pathognomonic picture. But I would call attention to the uncertain value of the enlarged lymph glands in the early diagnosis—a sign in which we formerly had great faith. Their enlargement may be due to mastitis, tuberculosis or syphilis, and their invasion by carcinoma may exist for some time before they become palpable. Therefore, the inability to feel enlarged nodes in the arm-pit counts for little or nothing in the diagnosis of cancer of the breast. After all, we have no right to feel satisfied with our ability to recognize this disease until we can do so in the absence of axillary involvement, since Halsted has concluded that while in the early stage the modern extensive operation cures two out of three patients, three out of four patients succumb who

are operated on after the axillary glands become demonstrably involved.

In cases where the diagnosis depends on microscopic examination, it is not advisable to remove a section from the tumor for this purpose. The entire tumor should be removed for the examination; cutting into it is liable to cause dissemination into the surrounding tissues. In the ideal clinic, where the rapid freezing of sections is employed, the pathologist can make a report in a few minutes; otherwise it is necessary to wait for several hours or days. As in a case of suspected diphtheria, wo often give antitoxin while waiting to hear from the laboratory, so I think it is just as important, if we do not wish to subject the patient to an immediate second operation, to proceed at once with a radical extirpation while we wait to hear from the laboratory on a suspicious breast tumor.

Before operating it is well to assure one's self of the absence of the disease in the opposite breast since instances of bilateral disease have been reported not infrequently. In the aseptic preparation of the field of operation, I have found the iodine method of skin sterilization perfectly satisfactory. In order to avoid the possibility of irritation or blistering, it is well to wipe off the excess of iodine with alcohol. The patient should be brought to the edge of the table, and an aseptically prepared assistant designated to manipulate the arm on the diseased side, moving it about as desired, and particularly preventing pressure of the nerve trunks against the table. I have seen failure to do this cause temporary pressure paralysis.

The suggestion of Dr. Follis that the man who is to close the wound should not be allowed to make the skin incision strongly accents the importance of making the skin incision with but one object in view, namely, to get rid of all diseased tissue without reference to subsequent cosmetic appearance. Where the scar can be minimized without interfering with this object, it of course should be done. Certainly, if the surgeon cuts as wide as he should in every case he will have a large per cent. of cases in which he is unable to approximate the skin edges.

Many skin incisions have been proposed, but they all consist essentially of an ellipse or circle around the tumor, with an extension up to the insertion of the great pectoral muscle. Most modifications of this are planned with the view of closing the skin defect with flaps. Such modifications are commendable provided they do not defeat the primary object of the operation.

It would be unprofitable here to go into all the details of an operation which Bryant calls "as conspicuous a procedure from the lay standpoint as belongs to the field of surgical endeavor." I would like to emphasize a few points, however. Following the incision into the skin, it is reflected from the subjacent tissues in every direction in order to expose the entire area of the dissection; to the edge of the deltoid muscle and clavicle superiorly, to the sternum internally, to the posterior border of the axilla externally, and well below the mammary gland inferiorly. The complete skin incision and reflection may be made at once, or in sections as we clean the various parts of the field. In reflecting the skin it is important to take with it only enough subcutaneous tissue to insure its vitality.

The Surgeon must now choose between two types of operation, either working from the chest to the axilla, as described by Halsted, or working from the axilla to the chest, as described by Willy Meyer. While no man has added more to our knowledge of the modern treatment of this disease than W. S. Halsted, yet to my mind the method of Meyer, which was described almost simultaneously with that of Halsted, in 1894, is much to be preferred. When I speak of the method of Meyer, I mean in general a method which dissects from the axilla toward the chest, however it may be modified. My reasons for this preference are several. In the first place the most tedious part of the work is done first, that is the cleaning out of the axillary contents, and I wish to remark that a very sharp knife should be retained especially for this purpose. Second, there is less hemorrhage because a large part of the blood supply is at once controlled by ligating a few vessels in the axilla. Again, the perforating branches from the internal mammary artery are easily exposed and secured before being cut as the mass is put on the stretch, lifted from the side and thrown over the chest. These features simplify

and shorten the operation materially. Another advantage of starting in the axilla is that the lymph channels are thus cut off so that there is no danger in handling the mass of squeezing cancerous fluid into the general circulation. I am sure that if an operator who has been in the habit of working from the chest toward the axilla will turn around and work the other way, he will never again resort to the first method. Such a great authority as M. H. Richardson says that it does not make any difference which way you go, but in my experience the Meyer method has been more satisfactory in every respect.

The surgeon must ever bear in mind that the chances of recurrence are greatly reduced by removing everything in one mass and by cutting at all times only into sound tissue. Involvement of the supraclavicular glands undoubtedly indicates their excision, but when this condition exists we are very close to an inoperable case. Whenever we have a case which our judgment tells us is on the border line between the operable and inoperable, if the patient's general condition permits I believe we should give her the benefit of the doubt and perform as radical an operation as is consistent with safety. Certainly life will be prolonged and suffering mitigated, and no one can always foretell how successful our efforts may be.

In closing the wound it is necessary to have it perfectly dry and clean to receive the skin-grafts, if such are to be applied. It is best to graft at once, if there is no contraindication. To do so later will require another general anesthetic. I have never seen much success follow grafting under a local anesthetic. Ample drainage of the axilla should be instituted, and a plentiful dressing applied, and the whole arm bound to the side and chest for the first few days. Most patients prefer to remain in bed for the first week, and it is best that they should, to avoid any possibility of embolism. The danger of hypostatic pneumonia must not be overlooked, and the patient must sit up in bed at the earliest possible moment. It is remarkable how little the use of the arm is impaired after removal of both pectoral muscles.

What ultimate results may we expect from this treatment? About one-half the cases survive the disease three years while more than one-half of the remainder fall victims to it later. This leaves only a very small percent of actual permanent cures, and these are the cases which are recognized and treated the most promptly. Our hope lies in early diagnosis and thorough removal, but in early diagnosis more. An early case moderately well treated stands an infinitely better chance than a late one which is handled most radically.

Until science give us some surer means of cure, neither physician or surgeon can afford to close his eyes one moment to the possibility of the presence of this disease.

NAUSEA AND VOMITING, THEIR CLINICAL SIGNIFICANCE.

W. W. Jarrell, Thomasville.

Nausea, a sensory infestation, and Vomiting, a motor act, and their significance, when encountered, is the theme of this discourse.

Although, we usually find Nausea preceding Vomiting, we will be misled if we should accept it in a causal relation. Nausea, is however, an initial symptom of a condition of which Vomiting is a later manifestation. Even this proposition must be modified somewhat for we may find Nausea without Vomiting and Vomiting without Nausea.

Of all the symptoms of disease, none may be so generally present or may give rise to greater suffering than do those we shall now discuss.

Nausea and Vomiting may be exhibited by simple gastric distention and they may be present in fatal organic changes. The onset of the symptoms is usually sudden and they may quickly assume alarming severity. Their intensity often obscures the "vital issue," forcing the attendant to inactivity till the violence abated before he can combat the condition indicated. No apology, therefore, is offered for thus departing from the established custom of defining the condition and then discussing its symptoms, to the discussion of Symptoms referring to the conditions of which they are manifestations.

Nausea is classed with pain, hunger and thirst, all sensations which can not be referred to any nerve center.

Nausea may result from the stimula-

tion of any of the senses, and it may attend certain intellectual processes; further, it is also a symptom of organic disease and the presence of toxines in the system. It seems to be a manifestation of the Sympathetic Nervous System, which influence is very subtile. And, further, any profound impression on the Splanchnic System may give rise to this Symptom.

For sake of convenience we will speak of those causes of Nausea not associated with disease as Innocent and of those that are so dependent as Toxic.

The Innocent or Non-toxic group comprehends such causes as, "repulsive sights," "nauseous odors," "suffocating heat," "sickening sounds," "disgusting tastes," and profound nervous shocks either through the usual channels of sensation or through the agency of one's intellectual faculties. For further convenience the Toxic group should be subdivided into Organic and Non-organic causes.

The Organic comprehends diseased or changed conditions of the various viscera whereby their normal relations are disturbed or their normal functions become morbid.

The Non-organic class embraces those substances which through their chemical or physical characteristics, by their local or central action produce this sensation. In this Non-organic group naturally fall foreign substances, be they indigestible food-stuffs or chemical poisons.

These foreign substances excite this sensation through direct stimulation of the nerve endings in the gastric mucosa. There are other substances of this class that exert their influence when introduced into the circulation. Their action is upon the Central Nervous System directly.

These Non-organic causes even though they may occasion sudden death are not, generally speaking, so insidious or dangerous as the Organic type and they are far more amenable to treatment.

Nausea, Organic in type, whether due to macroscopical, microscopical, or even functional derangement of the viscera is often very obscure in origin, and its true significance may not be recognized till the condition is irremediable. This symptom treated lightly may result in the hopeless discomfiture of the attendant.

Every viscus of the body may evince Nausea as a symptom of derangement. It is present in morbid intua-cranial conditions, it is a symptom of certain pulmonary and cardiac disorders, and there is not an abdominal organ that does not exhibit this symptom when diseased.

Vomiting, the second topic of our discussion, is a more clearly defined condition. In it we find the classical nervous sequence of sensory stimulus and motor act. A description of the muscular activity of the stomach and diaphragm during this act is not pertinent to this discussion, though the innervation of the act is of interest. Stimulation of certain centers in the Medulla lead to this act when the Pneumogastric Nerve is intact, but sever this nerve and the act is impossible. The efferent impulse travels along the Pneumogastric Nerve from the Center in the Medulla, but the origin and course of the afferent stimulus is obscure even to the point of confusion. Unfortunately the information we have of the motor impulses is of little value from a therapeutical standpoint.

As with Nausea, Vomiting may indicate a purely mechanical irritation from over-distention or it may be a symptom of the gravest toxemia. It too may enter into the symptom complex of disease in every human organ. It will be convenient to classify the causes of Vomiting as Organic and Non-organic, the terms having the same signification as in the classification of Nausea. The Organic causes then are those arising from the disturbance of nutrition or function of the organs, and the Non-organic class includes those not so dependent.

With the Non-organic type of Vomiting which is more amenable to treatment, there is always some more or less definite history. A night's revelry, a gluttonous appetite or the chemical analysis of the vomitus will always furnish a clue to the cause. The course is always rapid either to death or recovery.

With the Organic form of Vomiting the onset may be rapid or slow and its presence prolonged or fleeting. It may be so mild as to cause no alarm or so severe as to take life through the exhaustion incident thereto. It is this type with its complexity of causation that requires the exercise of one's keenest faculties to save him from false conclusions and serious mistakes.

Henceforth no allusion will be made to the Inorganic type, the discussion being confined to the more serious or Organic causes.

The activities of the various brain centers are often so obscure that conjecture enters largely into conclusions so that we accept them as reasonable as we do the other theories of science. It is therefore without the confines of the discussion to try to explain the modus operaundi of these Organic causes, so they will simply be submitted as clinically demonstrated in their relation to morbid processes.

Hysteria.

Vomiting may be a symptom of Hysteria. It may be so severe as to greatly weaken the patient or it may be very mild consisting of merely spitting up small quantities of food. There is nothing characteristic of disease in the appearance of the ejecta. The enormous quantity vomited is sometimes incredible. One author cites a case in which the patient vomited ten times the amount of the water ingested. In these cases the usual stigmata-hysterica will be present and from the history of the case and by process of exclusion the diagnosis is made.

Migrane.

Sick Headache, a prevalent condition and yet one whose etiology is shrouded in mystery, is often characterized by vomiting of a severe type.

Cyclic Vomiting.

Cyclic Vomiting is classified as a gastric neurosis. It occurs at more or less regular intervals and without apperciable cause. It is severe in its manifestations, uninfluenced by therapeutic ministrations. and terminates in from twenty-four to forty-eight hours.

Sea-Sickness or Car-Sickness.

This condition is more often the subject in jest than it is of serious consideration, yet it may be very serious as some patients have to be stupefied with chloral or an opiate throughout a sea trip so prostrating becomes this malady.

Acute Infectious Diseases.

That series of conditions included under the above caption very often, especially in childhood, show Vomiting as a primary symptom.

Pellagra.

According to the Italian authorities Vomiting with other dyspeptic symptoms may be present in Pellagra before the eruptive state.

Whooping Cough.

In the paroxysms of Pertussis, Vomiting not infrequently results from the violence of the effort.

Tuberculosis of the Lungs.

Nausea and Vomiting are often very annoying symptoms of Consumption, greatly interfering with its successful treatment.

Acidosis.

In that strange and serious disturbance of metabolism, termed Acidosis, which is more often met in childhood, Vomiting is conspicuous.

Heart Disease.

Nausea and Vomiting are usually present in those cases of chronic valvular lesions that do not respond to Digitalis or yield to treatment. In Pericarditis these symptoms may arise from disturbance of the Vagus.

Cerebral Vomiting.

In intra-cranial conditions such as tumors, compression from hemorrhage or concussion of the brain, you find a peculiar form of Vomiting called Cerebral or projectile Vomiting. This is not preceded by any nausea nor is there evidence of any gastric disturbance. The tongue is clean. It is accompanied by no retching. The contents of the stomach are hurled out violently after which the organ is quiescent. There is nothing abnormal in the character of the vomitus.

Cerebral Tumor.

In more or less obscure cases of intracranial disturbance, the projectile vomiting, in connection with a dull headache diffuse in nature with epileptiform seizures, with slowness or confusion of cerebration, with vertigo and drowsiness, one is led to the conclusion that a Cerebral tumor is present.

Cerebellar or Pontine Tumor.

If there be spells of more or less serious vomiting in cases showing bi-lateral paralysis of the extremities and of the cranial nerves, if there be convulsions, anesthetic

areas, incoordination, and vertigo, there is a tumor of the Cerebellum or Pons.

Epilepsy.

Vomiting which may be due to central disturbance or to the general spasm is sometimes seen in Epilepsy.

Apoplexy.

A severe headache, vertigo, nausea, and vomiting are often the initial symptoms of an attack of Apoplexy.

Leptomeningitis.

If a patient has severe headache, extreme restlessness, delirium, rigidity of neck, sensitive skin or muscles, pulse too slow as compared with temperature, contracted pupil, and projectile vomiting, he has Leptomeningitis.

Tubercular Meningitis.

This most insidious as well as hopeless form of Tuberculosis, with its slow onset and protracted course, presents a triad of symptoms, headache vomiting, and constipation which are ever present when the meninges are subject to this condition.

Grave's Disease.

In Exophthalmic Goiter, associated with the tachycardia, visibly pulsating carotids, enlarged thyroid, protruding eyes, subjective and objective nervous symptoms, Vomiting is often a serious complication.

Syringomyelia.

In Syringomyelia, that condition not so often recognized but not so infrequent in occurrence, with its progressive muscular atrophy, with its deformity of extremities, and with its sensory and motor disturbances, vomiting may be a marked symtom.

Locomotor Ataxia.

In Tabes Dorsalis, the ataxia, the involuntary movements, the palsies, the lightning pains, muscular cramps, girdle sensations, abnormal reflexes, disturbed visual and auditory apparatus are accompanied by repeated and intractable attacks of vomiting.

Infantile Paralysis.

Acute Anterior Poliomyelitis, which so often maims where it does not kill, may present Vomiting, diarrhoea, general convulsions, and delirium as initial symptoms.

Overloaded Stomach.

The simplest form of Vomiting with which we meet is that due to too great distention of the stomach. In this condition the food is returned shortly after ingestion in a practically unaltered state. This form is seen in infants where the spitting up of milk is no infrequent sight.

Acute Gastritis.

In an acute inflammation of the stomach, the Vomiting may be attended by high fever, convulsions, and collapse.

Chronic Gastritis.

Vomiting is a constant symptom of Chronic Gastritis where it is due to Alcoholism.

Dilatation of the Stomach.

The vomiting of large quantities of liquid containing food is a strong indication of Dilatation of the Stomach. Here the vomitus is characteristic in its color, odor, and disposition to separate in three layers.

Gastric Ulcer.

Vomiting is of considerable diagnostic importance in Gastric Ulcer. Here the vomitus generally gives the chemical test for blood and shows an excess of hydrochloric acid.

Gastric Cancer.

In Cancer of the stomach, especially if it be located near either orifice, vomiting is a constant symptom. This symptom increses in severity as the disease advances. The food vomited shows little evidence of digestion, even after a twenty-four hour stay in the stomach. The so-called "coffee ground" vomit is a classical symptom of Gastric Cancer.

Haematemesis.

Vomiting of blood may be a symptom of disease of the stomach, obstruction of the Portal system, various toxemias, trauma, certain constitutional diseases, certain nervous cases, where blood has been swallowed from throat or oesophagus, and from accidental causes as a rupture of an acrtic aneurism. Cirrhosis of the liver is one of the most frequent causes of Haematemesis.

Catarrhal Enteritis.

Severe vomiting may occur in the course of Catarrhal Enteritis rendering its treatment extremely difficult.

Acute Dyspeptic Diarrhoea.

Vomiting is an early and pronuonced symptom of Acute Dyspeptic Diarrhoea and contributes largely to the exhaustion generally manifest.

Cholera Infantum.

The triad of symptoms always present and alarming in Cholera Infantum are Vomiting, incontrollable diarrhoea, and collapse.

Trichinosis.

Vomiting is a manifestation of the invasion of the human system by that inetaoinetaoi, the trichina, which is introduced by the irritation of infected pork.

Appendicitis.

In Typhlitis, Nausea and Vomiting are always present and their severity is indicative of the extent of involment, being especially prominent in perforative cases.

Intestinal Obstruction.

Vomiting is a constant and most distressing symptom of Intestinal Obstruction. Here the ejected matter consists first of stomach contents, then bile and bile-stained fluid, and lastly of a blackish fluid of fecal odor. This order is of diagnostic importance in acute obstruction.

Toxemic Jaundice.

In haematogenous jaundice along with the high fever, delirium, convulsions, and subcutaneous hemorrhages, you will find the "black Vomit" of Yellow Fever, Malignant Malaria, and Acute Yellow Atrophy of the Liver.

Catarrhal Jaundice.

In severe attacks of the epidemic form of Catarrhal Jaundice, headache, chill, and vomiting may mark the onset of the disease.

Acute Infectious Cholecystitis

When the gall bladder is the subject of a ceptic invasion Vomiting is present.

Gall-Stone Colic.

Pain radiating from right hypochondriac region, Vomiting, profuse sweating, and depression of circulatory system materially aid in the diagnosis of Gall-Stone Colic.

Pancreatic Diseases.

In Pancreatic Diseases, whether they be malignant or not, Vomiting is a fairly constant symptom.

Peritonitis.

Where there is a general or a local involvement of the Peritoneum in an inflammatory process, Vomiting is present and its severity varies in the same ratio with that of the disease.

Uremia.

In Uremia Nausea and Vomiting are always present and they may be the only marked evidence except the chemical and microscopical findings of the laboratory.

Kidney Colic.

When renal calculi become impacted in the ureters Vomiting enters into the symptom complex of the condition.

Vomiting of Pregnancy.

The Vomiting of Pregnancy is a familiar condition the cause or causes of which have never been clearly determined. It varies greatly from a trivial condition to one that destroys life itself.

Typhoid Fever.

Vomiting may occur during the onset of Typhoid Fever, here its significance is little. Vomiting, however, occurring toward the close of an attack associated with sudden pain in abdomen and collapse is indicative of perforation.

Malarial Fever.

The clanical chill of a malarial manifestation may be supplinated by an attack of vomiting.

Post-Operative Vomiting.

Post-operative Vomiting, whether it be due to anesthesia or not is a very much dreaded complication. Many satisfactory results are sacrificed through the violent muscular efforts of the act. This condition seems to be due to a reverse peristalsis of the duodenum whereby its contents ladened with toxines are thrust into the stomach, which organ rejects them.

Nausea and Vomiting then are common to a multitude of conditions, varying from a simple mechanical distention of the stomach, to intestinal obstruction, from functional derangements to malignant diseases, from hysteria to morbid changes in brain or cord. They are not symptoms that can be easily overlooked and they are symptoms that should not be ignored.

ACUTE DIFFUSE SUPPURATIVE PERITONITIS.

G. A. Traylor, B.S., M.D., Augusta.

"Peritonitis is dangerous directly in proportion to the absorption. It is not the inflammation of the peritoneum that is fatal, but the toxins which are absorbed from its products that cause the severe manifestations or perhaps death."

We can, I think, take the above quotation as axiomatic; and having fixed this clearly in mind proceed to the subject matter under consideration with a better understanding.

Anatomy and Physiology of the Peritoneum.

The peritoneum has an absorptive surface almost equal that of the skin. Its surface area measuring 17,182 square inches. For a long time stamota were thought to exist between the endothelial cells through which matter was absorbed and carried into the general lymphatic system, the peritoneum being regarded as a part of the lymphatic system. Now we are taught that stomata do not exist, but that absorption takes place through small lymph and blood channels which have been demonstrated in the peritoneum. The areas where this absorption takes place with greatest rapidity are the diapharagmatic and omental surfaces.

Factors Upon Which Peritoneal Absorption Depends.

1. Pressure of abdominal muscles, tonicity and respiratory contraction.
2. Rythimc, pump-like action of the diaphragm; by reason of its regular contration and relaxation, fluids and particles are aspirated form the peritoneum and forced onward.
3. Peristaltic activity; under the influence of gravity all fluids tend to accumulate in the pelvis. Peristalsis, has, among its other functions, that of distributing fluids evenly and preventing their accumulation in the pelvis.
4. The vitality of the peritoneal endothelium. Peritoneal absorption cannot entirely depend upon osmosis.

Factors Hindering Absorption.

1. Subperitoneal infiltration, lymphatic "coffer-damming."
2. Venous engorgement.
3. Diminished peritalsis, i. e., in inflammation of the peritoneum the fluids tend to accumulate in the pelvis by gravitation, because of intestinal paresis.
4. Diminished or shallow respiration in lessening the respiratory movements.
5. Lowered abdominal temperature. The muscular and nervous elements concerned in absorption are less irritable if the temperature be lowered by the local application of cold; peristalsis is then less active and the tendency for the fluid to gravitate is favored.
6. Drying of the peritoneal endothelium, e. g., by exposure during an operation.
7. Lowered intra-abdominal pressure, as after laparotomy.
8. Certain positions of the body which favor gravitation toward the pelvis.

Factors Favoring Absorption.

1. Abrasion or exfoliation of the endothelium, will, under certain circumstances, favor absorption.
2. Tearing of adhesions of the peritoneum, exposing the underlying vessels, increase the possibility of absorption through the blood stream.
3. An acceptable material, e. g., physiological salt solution, certain bacteria, ptomaines, etc.
4. Pressure and continued contact; pus under pressure is readily absorbed.
5. Vaso-motor paresis; toxic absorption paralyses the vaso-motor center and a vicious circle is established.

Protections Against Infections.

1. Peritoneal fluid. There can be no doubt that this fluid, though small in amount, has certain bactericidal qualities; and it is increased greatly both in quality and quantity in peritoneal infections.
2. Plastic powers of the peritoneum. The irritation of foreign bodies preduces a local peritoneal exudate with the deposition of fibrin,thus encapsulating the foreign body and rendering it harmless until it can be destroyed by the leukocytes.
3. Phagocytosis in the peritoneal cavity.
4. Phagocytosis in the omentum.
5. Phagocytosis in the lymphatic system.
6. Phagocytosis and bacteriolysis in the organs of the body.

Forms of Peritonitis.

Peritonitis can be recognized in three forms—chemical, mechanical and bacte-

rial. Chemically, it can be produced by drugs, e. g., Tr. iodine, turpentine, croton oil, formalin and the toxins of bacteria.

Mechanical peritonitis is most closely simulated by foreign bodies, the twisted pedicle of tumors, sponges, etc. It is probable in these cases that the foreign body irritates the peritoneum, mechanically, setting up a reactive inflammation thus forming a weak spot for bacterial invasion. Experiments have shown that it is possible to inject the spores of the testanus bacillus under the skin, and if care has been used not to injure the cutaneous and subcutaneous tissues, no infection will take place. The spores are destroyed by the body, if in addition no foreign body or media for growth is present, (suspension media). The reason most 4th of July injuries are so serious, resulting in tetanus, is that foreign matter, gun-wadding, etc., is carried in the wound with the bacilli. In addition to the foreign body, we have an injury to the tissues.

The simple introduction of bacteria into the peritoneal cavity is insufficient in itself to excite an inflammation of the peritoneum, if that membrane be healthy, and free from foreign matter. The abdomen is scarcely ever opened without some bacteria being introduced from the outside. As Roger says, "Ideal asepsis is an illusion." The reason that peritonitis does not always develop after an operation or from some of the diseased states of the alimentary tract or the organs in close relation therewith is, because the peritoneum has the power of caring for a limited amount if infection. The amount it will be able to dispose of will vary with many factors. Witness the diseased condition present about an old gastric or dodenal ulcer, an inflamed gall-gladder, a chronically infiamed appendix, and inflamed adnexae.

In the perforation of the hollow viscera we have the ideal conditions for the development of a peitonitis; we have bile, stomach and intestinal juices, gall stones and enteroliths; and superadded to this we have bacteria. The foreign matter sets up a chemical peritonitis, allowing the bacteria to gain a foothold on a surface of less resisting powers than normal.

Etiology.

Hematogenous or cryptogenetic peritonitis may occur, but the teachings of modern pathology are making this manner of origin less and less frequent. When it does occur, it is usually the terminal event of some long debilitating disease like Brights, gout or cirrhosis of the liver. In the latter it is in most cases a metastatic infection.

Perforation. Most cases of peritonitis are due to perforation, either from the outside-exogenous, or from the perforation of some of the viscera contained within the peritoneal cavity-endogenous. Of the exogenous forms our attention is first called to the penetrating wounds of the abdomen, those made by gunshot injuries and stab wounds. In this connection it might not be amiss to say that the hollow viscera-intestinal tract in particular can be injured from subcutaneous injuries, e. g., a piece of iron hurled at a workman. It having been my fortune to have seen one such case, and they are by no means rare in industrial occupations.

Endogenous. Those of the alimentary tract are the most frequent; and here we have two zones of especial danger, viz., the reigon of the appendix and the area around the pylorus. "These two zones of infection represent the source of infection in 90%. of the cases." (Murphey).

In the upper abdomen we may have the following conditions giving ries to peritonitis: Perforation of the stomach, from simple ulcers, in rare instances carcinomatous ulcers. Perforation of the duodenum from duodenal ulcers. Perforation of the gall bladder or bile ducts, or the extension of inflammations by continuity from a chalecystitis or cholangitis. Acute panceratitis. Rupture of a liver abcess. Extension of inflammation from a suppurating kidney.

In the region of the appendix, right iliac fossa, the most frequent origin of peritonitis is a ruptured appendix. Typhoid ulcers. Infrequently dysenteric, syphilitic and tuberculous ulceration. Rupture of a lymph gland infected from typhoid. Diseased adnexae may cause peritonitis, but usually it is the localized variety.

Occasionally foreign bodies like pins, fish bones, etc., may be swallowed and cause perforation.

Traumatic rupture of a renal cyst or of the urinary bladder may rarely cause peritonitis. While the urine may be sterile yet it soon undergoes decomposition, setting up irritation of the peritoneum, thus paving the way for bacteria.

Other causes not mentioned are rupture of splenic infarcts, rupture of the uterus, and an extension of infection from the external genitalia, along the spermatic cord in the male and round ligament in the female.

Cause of Death in Peritonitis.

The cause of death in peritonitis is toxemia. Depending upon the organism, the dose of the toxins and the resisting powers of the individual will determine the outcome. The toxins are the result of both the products thrown off by the dead and living. Organisms in those cases in which the streptoccus is the cause of the peritonitis, death usually occurs during the first 12 to 20 hours, maybe as late as 60 hours. If due to the colon bacillus death may be delayed for from 2 to 4 days. However, such discussions as to the time of death are of academic interest only, as all depends upon the three factors before mentioned.

Bacteriology.

The colon bacillus, the streptococcus, pneumococcus, B. pyocyaneus, B. typhosus, the gonococcus, and staphylococcus pyogenes aureus, are, in the order mentioned, the most frequent causes of peritonitis.

The B. coli is undoubtedly the most frequent of all. "Its virulence depends upon the location of the perforation, the condition of the bowel and the pathological changes responsible for the peritonitis." It is least virulent in the jejunum, most so in the ileum—and intermediately so in the colon.

The streptococcus variety is extremely fatal, though not necessarily so. Its danger lies in the grave septicemia it so quickly produces. The obstertician encounters it as a subperitoneal infection—a condition in which we can hope for nothing by simple peritoneal drainage.

Pneumococcal peritonitis is rare, though now found more frequently than formerly, since bacteriological examinations are more frequently made of the pus from such cases. It is scarcely ever found in the male, and particularly the male adult, but most frequently in young girls. The atrium of infection in these cases is supposed to be the Fallopian tubes.

The bacillus of blue pus is an occasional cause, though rare.

The gonococcus can cause peritonitis, though this was not found out until recent years.

The staphylococcus pyogenes aureus is an occasional agent, though one to be reckoned with.

Pathology.

An infection of the peritoneum, limited by adhesions, no matter how thin and delicate is a circumscribed abcess, depending upon the presence or absence of pus. An abscess may be so large that it extends from the diaphragm above to the pelvis below and if it is encapsulated by adhesions it is a circumscribed abcess, and not a diffuse peritonitis. The term spreading is used to impart the idea that there are no adhesions, and expresses the tendency of the process to progress from one part to another. Free peritonitis is another way of stating that there is no tendency to limit the process by adhesions. Diffuse and general are terms that have given rise to much confusion in nomenclature, probably from the idea that we get that the whole peritoneum is involved. It must be very rare that every square inch of peritoneum is involved in the inflammation. Such a condition could only be determined post-mortem. However, it is usually easy at operation to determine whether or not a peritonitis is circumscribed or of the spreading variety. "The term free peritonitis should be used for the general diffuse variety and circumscribed for the encapsulated form, regardless of the size."

"Diffuse septic peritonitis is the pathological variety usually due to the streptoccus. It seems that this organism in its growth in the peritoneum is characterized by (a) a tendency to produce relatively large quantities of toxins, and (b) very little plastic exudate, and (c) by a tendency to penetrate the subserous lymph spaces."

"In cases of puerperal origin the process is primarily a subperitoneal cellulitis. It is the subperitoneal character of the process that makes this form so dangerous. The peritoneum looks dry; there may be ineffectual efforts at the formtaion of fibrinous adhesions, but these are usually abortive. In these cases simple peritoneal drainage through a lapratomy wound are ineffectual. as the infection is confined to a space that drainage in this way cannot hope to do any good, and to a tissue of low vitality."

In perforative cases due to the strejstococcus the process resembles more that due to other organisms. There is a relative failure to form plastic exudate. The peritoneum is dull, even rough, the capillaries are dilated. This organism readily passes through the lymph spaces and into the general circulation, causing the most serious factor in such cases—a septicemia.

In the suppartive variety the only difference from the one above is the tendency to the formation of small or large quantities of pus. This is at first beneficial as it contains an army of leukocytes. However, it must be drained or toxic absorption will take place.

In opening the abdomen in a case of suppurative peritonitis the subperitoneal tissues will be found to be edematous and infiltrated, the thickened peritoeum will be evident before the abdomen is opened, and free gas may be present in the cavity. The intestines are usually distended with gas and fluids. The cause of this has not been satisfactorily determined but is probably due to the injury to the nerves from the subperitoneal infiltration resulting in a paralytic secretion similar to the paralytic salivary secretion following injury to the nerves supplying the salivary glands. This condition of distension sometimes gives the operator great trouble where he allows evisceration, it sometimes being very hard to replace the coils of intestine. In such cases a great amount of injury is done, besides the shock to the patient, which might be more than an operation would entail.

Symptoms.

The symptoms are those of the perforation causing the peritonitis, i. e., in the early stage of the process. The first sign to appear is pain, localized in character at first, later spreading to the other parts of the abdomen. In case the central zone of the abdomen is involved, and only the parietal peritoneum inflamed, we have none or a very little pain.

Nausea, reflex in character at first, closely follows the pain. It is an early and important diagnostic sign. It disappears to return later accompanied by vomiting. At first only the contents of the stomach are ejected, but later on the vomiting becomes brownish in character and very feculent in odor. "It is probable that a certain amount of the toxins that are absorbed are thrown into the gastrointestinal canal and that the vomiting is an effort of nature to eliminate them." Gastric lavage is very beneficial in such cases, because it adds very materially to the comfort of the patient and removes a certain amount of the txins from the system.

Tenderness at the seat of the perforation is one of the earliest signs but with the spread of the infection it becomes diffused over the abdomen.

Abdominal rigidity is at first present at the site of the perforation, but later becomes diffused.

The respirations are at first short, catchy and costal in type.

The temperature is lowered, maybe below the normal, later to rise high. In making the diagnosis we should not place too much reliance upon the temperature. It is the condition of the circulatory system that is the more important of the two. The pulse is hard, wiry and quick. Later it becomes soft and irregular, as the toxemia advances.

The abdomen at first may be retracted but later becomes distended even obliterating the anterior liver dullness. This is due to the escape of gas into the general cavity. The distension of the abdomen in most cases is due to the paralytic distension of the intestines. The bowels then fail to move from the intestinal peresis.

The countenance is anxious, the face is drawn and pale, the eyes sunken, nose pinched and hollow. Hippocratic facies.

The position in bed—the legs are usually drawn up and the chest elevated.

In Typhoid, on account of the apathetic state of the patient, perforation may not be suspected unless the pulse, temperature and the condition of the abdomen be closely watched.

Diagnosis.

In the typical case with pain at onset, nausea, tenderness, fever, abdominal rigidity, Hippocratic facies, and later vomiting and symptoms of collapse we should have no trouble in making the diagnosis. In fact we should not wait for so many confirmatory signs, as very valuable time is lost in waiting for symptoms to make their appearance.

In locating the point of perforation the past history will give us valuable aid. Past gastric symptoms will point to a probability of the stomach duodenum or the appendix as the sight of the lesion. So

also, will the gynecic history give much valuable information.

Differential Diagnosis.

The following conditions may at times give rise to confusion in the differentiation from peritonitis:

Intestinal obstruction.
Thrombosis of the mesenteric Vessels.
Rupture of an abdominal aneurysm.
Hemmorhagic or gangrenous pancreatis.
Acute entero-colitis.
Phlegmonous gastritis.
Dietl's crises.
Various colics.
Ruptured ectopic gestation.
Acute pancreatitis.
Pneumonia, especially in children.
Various diseases of the spine or the cord.

Prognosis.

"There is no disease in the entire field of medicine in which so many lines of treatment in the past have been so grossly at variance as in general peritonitis, so-called. One physician despaired of making a diagnosis, and refused to operate for fear of bringing surgery into disrepute. From this extreme on the one hand, we go by gradations to the other man who opened the abdomen, eviscerated, washed and wiped every drop of pus from the intestines. Between these two we find those who simply opened the abdomen, while others flushed the cavity and then drained. Some gave catharsis, others gave opium; some allowed water, either by mouth, rectum of hypodermocysis; others gave no fluids at all. Some elevated the foot of the bed, to hasten absorption; another sat his patient up to retard absorption. This divergence was attributable to imperfect diagnosis, and inadequate knowledge of the physiology and pathology of the peritoneum."

The outlook will depend in a great measure upon the organism causing the peritonitis. Usually the infection is mixed, if only a single organism is causing the trouble this has some bearing upon the case. The gonococcus, the pneumococcus and staphylococcus pyogenes aureus, as a general thing, presage a favorable outlook. The colon bacillus presents a grave prognosis, and the streptococcus the gravest of all.

"The location of the perforation is a very significent element, since it determines the virulence of the infection, which varies in different portions of the intestines. In the region of the appendix bacterial activity is at its height. Variations in virulence occur, but the essentials are the patients resistance, the quantity of arterial hypertension, arterio-sclerosis terial that has escaped, the time which has elapsed before reaching the operating table, whether or not he has had opiates, the degree and duration of the surgical trauma, and the post-operative treatment.

Treatment.

All patients suffering with this type of peritonitis should be submitted to operation as soon as practicable after the diagnosis has been made. The operation should be of as short duration as is consistent with careful work. The point of incision should be determined from the early history of the case, that is, whether the incision should be over the appendix, gall bladder, etc.

The most important indication to be met in the treatment is the prevention, or minimizing, of the absorption of the toxins as it is the toxemia that kills the patient. In this connection the Fowler position is of great aid both before and after operation. The reason for the maintenance of this position is based upon the anatomical and physiological grounds, already enumerated. If transportation of the patient is necessary, he should be kept in this position. As peristalsis favors the diffusion of poison, we should attempt to limit this process, and to this end we should give no food. The use of opiates is to be condemned; it masks symptoms and is unnecessary if the proper treatment is to be carried out. An ice-bag to the abdomen would seem to be indicated in limiting peristalsis.

Gastric lavage preceding the operation is beneficial in relieving an over-distended stomach and removes some of the poison. It may be used after operaion if indicated.

Complete anaesthesia is necessary, as less harm will result than from incomplete narcosis. Besides, the operator is able to work faster.

Perforation, if one exists, should be closed. This will be very hard to do if the case is of long standing, as sub-peritoneal infiltration will have advanced to a marked degree, and in this case it is very hard to make the stitches hold—they easily cut through the tissues. In such a

case, a piece of neighboring omentum should be sewn over the perforation. If no perforation exists and any other disease process is the cause of the peritonitis, it should be sought for and its removal effected. In carrying out this work, we should effect as little traumatism as possible; no mopping, irrigation, or rough handling should be practiced. Drainage should be instituted. "The relief of pus tension is the first step, surgically, toward retarding absorption in all acute infections."

Enteroclysis is of very great aid in the after treatment. The ways in which it accomplishes good are too well known to be given here. The normal salt solution should be given per rectum by the drop method. In carrying out this line of treatment we should bear in mind "that moderate distension is the normal condition of the colon. If hyperdistened, it will expel its contents." No fluids should be administered by mouth until peristalsis has been re-established.

The serum treatmet has been tried by some and has given some satisfaction.

Intestinal paresis may be benefited by the giving of high enemas of asafeotida or alum. Physostigmin hypodermatically is said to be very useful. As to the use of other drugs, they will rarely be required.

THE FOLLOWING ADDRESS WAS DELIVERED BY DR. WILEY AT A DINNER IN KANSAS CITY.

"The case against Johnson and his cancer cure fake, appealed to the United States Supreme Court from Kansas City, was decided in favor of Johnson because the court held that the pure food law did not apply to the therapeutic claims of medicines. The vote was six to three. Justice Holmes, who should have known better since he is the son of a physician, wrote the decision. Justice Hughes wrote the dissenting opinion, upholding the contention that the phrase in the law concerning false and misleading statements applied to anything false or misleading in the statement, device or design. The Supreme Court decision was of course final and caused the Bureau of Chemistry to drop mny suits for violation of the Food and Drugs Act.

"Reading between the lines of this decision it was plainly apparent that the court invited Congress to amend the act so that no ocender might escape. Acting on this hint two amendments were at once introduced, one by Mr. Shirley and one by Mr. Richardson. The Shirley amendment simply requires truthful statements of the pledges of the manufacturers in all respects. The Richardson amendment goes much farther and, if enacted into law, it will put an end to patent medicine fakiring. This amendment provides that no person shall make or sell drugs unless he is a registered pharmacist and no medicine may be presscribed except by a registered physician in the place where the medicine is to be sold. If put into law the traffic in drugs and medicines will be confined to registered pharmacists and registered physicians. We will kill this monster sometimes, because the people are rapidly becoming educated to understand its menace. The man who deludes a person to believe he is being cured of a disease that is incurable is worse than a murderer. We prosecute persons who allow their relatives to die through neglect yet we put no restraint on the medicine fakir who deludes people into the belief that they are being cured by taking worthless medicines.

"An effective method of combating the patent medicine fraud is for the medical fraternity in every community to prescribe simple remedies for colds and other transient and temporary ailments, and allow the druggist to put up and sell these preparations without a prescription. This would go a long way toward eradicating the last hold which the patent medicine fakir has on the public because it would destroy the argument so speciously advanced that patent medicines save money for the poor person who is unable to employ a physician. Of course we know this is a false statement because it is common for the poor man to spend more money on patent medicines than he would spend if he consulted a physician and had his prescription filled at a drug store. The time is not distant when the physician will come into his own and the regular practitioner recognized as the authority in his community, and the fakir and debaucher of public health will be eliminated from doing harm. The medical profession is standing by the propaganda to make this

possible. It is standing by every movement for improving the sanitary conditions of the congested districts as well as in segregated districts. It is advocating every effective means of educating the people in the true principles of sanitation and prophylaxis, segregation of contagious diseases, establishment of state and national hospitals for tuberculosis, typhoid fever and syphilis, for these diseases will be segregated sooner or later just as leprosy is segregated today. Such isolation is doubtless hard on the individual but it is good for the public. We are getting medical inspection in the public schools with accredited physicians and dentists to look after the health and teeth of schoo lchildren, and we are doing wonders in restricting contagious diseases as well as excluding disease brought by immigrants from foreign countries. There is a forward movement absolutely discernible to improve the physicial condition of this country; this is now noticeable principally in reducing the death-rate from disease and the saving of hundreds and hundreds of men and women who a few years ago would have gone to the grave. This great work is the result of the medical profession propaganda and the people are beginning to understand that the doctors are not a trust, as the League for Medical Freedom would have us believe."

DISEASES PRODUCED BY THE BACILLUS COLI COMMUNIS IN THE INTESTINES.

Etiology, Diagnosis and Treatment.

Fenton B. Turck, Chicago.

The virulency if the colon bacillus is now quite generally recognized. The major part of the diseases of the intestinal tract are caused primarily by the virulency of the B. Coli.

The degree of virulency can be determined by cultures taken from the ileum or coecum, and fed to rats.

Immunity or partial immunity can be established, by the use vaccines.

Where the thyroid gland is deficient, the giving of thyroid substance will reduce virulency.

Diagnosis.

Symptoms are variable in different patients.

Cultures are taken from the lower ileum or coecum, the area of greatest bacterial activity. One-half to one c.c. of a bouillon culture of non-virulent B. Coli can be injected into the peritoneum of a rat without any marked effect, but if the virulency is well marked, death will follow.

Treatment.

(1) Reduce the virulency of the B. Coli.

(2) Restore the stomach and intestines to normal condition.

(3) By hygienic living, proper diet, etc. guard against recurrence.

If retention is of long standing, and correction of dietetic errors and hygienic living, drugs, etc., do not avail, surgical means required. This, however, only removes the effect, not the cause, and after treatment is necessary, to remove the causal factors.

Lavage of the stomach with a weak solution of Ag NO_3 is necessary. Heat stimulation (hot water introduced into the stomach) is very beneficial to create antibodies and restore the muscle to functional activity.

Lavage of the colon with water and air, will excite peristalsis and act as a pneumatic gymnastic exercise of the muscle wall of the colon.

Albolene and liquid vaseline enemas are of great value in cases of constipation.

Some have recommended the use of B. Bulgaricus, as a force antagonistic to the B. Coli, but others maintain it has no effect when taken with a mixed diet.

The injection of vaccines is of the greatest value. Cultures should be taken, not from the feces, but from the ileum or coecum, as there the strain is most virulent. The cultures are injected into a dead fetal pig and grown in a serum pressed out from the fetal pig. In acute cases small injections are taken from three to five days apart; in chronic cases large doses but farther apart.

In many cases where the mechanical physical means and vaccine and serum treatment are all negative, the use of the thyroid substance will be beneficial.

Drug Treatment.

Laxatives and purgatives are valuable for expelling the accumulated material from the bowel, but are not of permanent value. They even increase the virulency

of the B. Coli. Those drugs that have the least irritating effect should be used.

Antiseptics of all forms have little value, as they seem to increase the bacterial growth and interfere with digestion.

A few of the oxidizing agents, such as substances containing magnesia or iodine compounds containing free oxygen that can be liberated, will promptly excite the antibodies in the blood.

Diet.

The diet regulates the bacterial contents of the intestines. Frequent changing of the chemical nature of the diet will prevent the establishment of any one type of bacteria in the intestines.

The frequency of meals is of great importance. In many cases more time is required, because of the slow movement, to clear the alimentery tract and give time for rest.

The use of meat increases intestinal intoxication, and should not be eaten oftener than once a day.

Suggestions as to the best way of cooking meat, so as to render it least harmful.

Rice is one of the most easily digested foods, and least toxic in effect. It may be combined with extract free meat, into an easily digested, nutritious and inviting dish.

Carrots, beets, parsnips, spinach, raw cabbage, celery, raw tomatoes, apples, are all good and may be used in various combinations.

Irish moss and agar agar with vaseline, cooked into a jelly and flavored, will do much to reduce the virulency of the B. Coli.

Hyperaemia.

Lavage of the stomach and colon will not only have a beneficial local effect, but will produce changes in the chemistry of the blood. Hot baths have a like effect, to a less degree.

Exercise is an essential part of the treatment to be adopted in combating constipation.

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"A UNIQUE SITUATION"

Maury M. Stapler, M.D., Macon.

The members of the medical profession are aware that for the past several years some work upon an original theory looking to the establishing of hearing and speech for deaf-mutes has been carried on at Macon. For the past two years test classes have been held under experienced teachers with daily medical attention by a physician, each of the two classes contained seven pupils and three of each showed marked improvement. One of those of the first year's class was a boy whose father gave of him the following history:

Born deaf and dumb with the exception of sound perception when spoken in a loud voice directly into the ears, as a child he babbled but did not learn words. At six years of age he was taken to Drs. Peete and Cunningham, of Macon, where an examination was made and adenoids removed, after which there was some improvement and the child learned to say "Papa." At eight years of age he had relapsed and was brought to me for treatment. Some adenoids was found and removed and the fossa Rosenmuller cleared with the finger. The operation was followed by treatment once a day with suction massage with a view of raising the stapes from the oval windows, a proceedure described some time since in the Journal of the American Medical Association, and not necessary to detail here. The child was at the same time having its speech cultivated by an oral teacher. Thus the boy spent six months. The next year he applied for entrance at the Georgia School for the Deaf, and was returned to his home with the statement that he could not enter that school because he heard and talked so well. I wrote the Principal of the school. His letter follows:

"GEORGIA SCHOOL FOR THE DEAF
Cave Spring, Ga.
August 16, 1911.

"Dr. M. M. Stapler,
"Macon, Ga.

"My dear Sir:—

"Your favor of the 15th inst. is before me. The law of Georgia specifies that

the children must be too deaf to receive instruction in the common schools in order to be admitted to the School for the Deaf.

Our Ear and Eye Specialist, Dr. R. P. Cox, pronounced the hearing of Robert Roberson to be normal or nearly so, but it did not need a Specialist to convince anyone that his hearing was almost perfect. This being the case, of course, under the law he was not entitled to education in this school. He was received January 15, 1911, and discharged February 16, after a month's trial.

"If his hearing is established, as you seem to think it is and as we seem to think it is, why should it be desired to send him to a school for deaf? If he can be taught to talk at all, a school for hearing people is the place for him, by all means.

"Yours very truly,

"W. O. Connor,

"Principal."

This boy has difficulty in keeping up with a class of normal children because his vocabulary is limited and his acquisition of speech is slow because of the handicap of deafness placed upon him at the time when the speech center should be most active. I have other patients of this kind who hear and speak better than Robert Roberson and some not so well. Since some of these patients are too poor to employ a special teacher and they have been placed in a position where they cannot keep the pace at the public school and will not be accepted at the Georgia School for the Deaf, the conditions are unique.

I am incorporating that part of the Georgia law bearing on the subject and I should be pleased to hear from the members of the profession as to whether they agree that the oral department of the Georgia School should take charge and advance these children to where they are able to attend the public school with more profit, finally bringing them up to the normal standard.

"CIVIL CODE GEORGIA, 1910"

Law Pertaining to the Entrance of Children to the Georgia School for the Deaf. (No. 1426.)

Who are entitled to admission as pupils. All persons in the State between the ages of seven and twenty-five years, who are too deaf to be educated in the common school, **and who are otherwise in a condition mentally and physically to receive instructions profitably**; and free from any immoral conduct or contagious disease, shall be entitled to admission as pupils to all the privileges of the respective departments of the Georgia School for the Deaf, free of cost, to remain such a member of school terms or portion thereof as the board of trustees, upon recommendation by the Principal shall see proper to grant: Provided no pupil shall be allowed to remain more than twelve terms.

PROGRAM

Eleventh Semi-Annual Meeting Sixth District Medical Society.

Macon, Ga., Nov. 8, 1911.

Called to order by the President, 11 a.m.

Report of Committees and Announcements.

Papers.

1. Excision of Internal Jugular Vein for the Relief of Thrombosis of the Lateral Sinus, with report of cases and exhibit of patient.
   —Dr. F. M. Cunningham, Macon, Ga.
2. Right Upper Quadrant.
   —Dr. C. C. Harold, Macon, Ga.
3. Public Health Problems.
   —Dr. H. J. Williams, Macon, Ga.
4. Dysmenorrhea.
   —Dr. J. R. B. Branch, Macon, Ga.
5. Freud's Theory of Hysteria.
   —Dr. E. M. Green, Milledgeville, Ga.

Luncheon 1 to 2 P.M.

Afternoon Session, 2 P.M.

Election of Officers.

Papers.

6. Chloroform in Obstetrics.
   —Dr. J. M. F. Barron, Milner, Ga.
7. Report of Successful Caesarian Section by a Country Practitioner.
   —Dr. A. M. Burt, Macon, Ga.
8. Report of a Successful Caesarian Section and a Porro Operation.
   —Dr. N. T. Carswell, Macon, Ga.
9. Puerperal Infection.
   —Dr. A. L. Blalock, Macon, Ga.

ELEVENTH DISTRICT MEDICAL SOCIETY.

Meeting at Douglas, November 21, 1911. at 10 O'clock, a.m.

PROGRAM.

Invocation.
Minister, Invited by Commitee.
Address of Welcome, Dr. C. W. Roberts.
Response, Dr. J. W. Palmer.

Papers.

Abscess of th Liver, Dr. J. G. Tuten, Jesup,

Ulceration of the Vesical Neck, Dr. J. L. Farmer, Savannah.

Diphtheria, Dr. Dallas Williams, Folkston.

Report of a few cases of Intestinal Stasis, Dr. Chas. C. Harold, Macon.

Non-Surgical Gynaecology, Dr. A. Griffin, Valdosta.

Inspection of School Children, Dr. A. G. Fort, State Board Health.

Puerperal Ecclampsia, Dr. S. L. Vinson, Nicholls.

The Interpretation of Blood Pressure Readings, Dr. J. W. Daniel, Savannah.

Mastoiditis and the Indications for Operation, Dr. F. M. Cunningham, Macon.

Typhoid Vaccine and Prophylaxis in Typhoid Fever, Dr. J. W. Palmer, Ailey.

Injuries of the Eye Ball and Its Appendages, Dr. J. M. Smith, Valdosta.

Surgical Treatment of Goitre with Report of Cases, Dr. Wm. S. Goldsmith, Atlanta.

Review of One Hundred and Thirty consecutive Operations for Appendicitis, Dr. Edward G. Jones, Atlanta.

Some Random Remarks on Tonsillitis, Dr. Quitman Holton, Douglas,.

Business Session.

Election of Officers for the year 1911-12.

Dr. A. C. Little, Pres. Dr. H. C. Whelchel, V-Pres.

Dr. W. E. Miller, Sec'y. and Treas.

Committe on Arrangements—Dr. H. C. Whelchel, Dr. Quitman Holton, Dr. C. W. Roberts.

GEORGIA MEDICAL SOCIETY.

Savannah, Ga.

You are cordinally invited to attend an open meeting of the Georgia Medical Society in the Assembly Room of the Young Men's Christian Association, Tuesday, November 14, 1911, at 9 p.m., Dr. C. H. Lavinder, of the United State Public Health and Marine Hospital Service, will address the meeting on the subject "Pellagra."

Geo. R. White, M.D., President. J. M. Sigman, M.D. Secretary.

DEALING WITH THE SAC IN THE RADICAL CURE OF INGUINAL AND FEMORAL HERNIA.

There is reason to believe, says H. McClure Young, St. Louis (**Interstate Medical Journal,** October), that the ordinary indirect inguinal hernia is always to that extent congenital that a sac lined with peritoneum persists after the descent of the testicle is accomplished, and that this sac awaits only some extraordinary exertion or some relaxed condition of the parts to receive a loop of bowel from above. In dealing with hernia, therefore, the obliteration of this sac must always be insisted upon as the one all-important step in the operation. From this standpoint Young discusses the various operations for inguinal hernia, but says that none so logically answers the necessities of the condition as the one devised by Lexer, which he describes as follows:—The skin and aponeurosis of the external oblique are divided in the usual way and the sac freed as far up as the internal ring, where it is ligated securely as high up as possible, but not yet removed. A pair of slightly curved forceps is now passed under the free margin of the conjoined tendon, insinuating them gently upward between the muscle and peritoneum for a distance of about two inches. Here the point of the forceps is pushed forward through the muscle. Into the jaws of this forceps is now introduced the jaws of a second pair of similar forceps, locking them securely and withdrawing the first pair, thus conducting the second pair along the route of the first down toward the internal ring. The loose end of the sac is now clasped in the jaws of the forceps which have been thus placed, and the forceps withdrawn. This brings the sac out through the muscular tissue at a point about two inches above the internal ring. It is pulled upon until the neck of the sac or point of ori-

ginal ligature comes to lie firmly against the posterior surface of the muscle at this point, a thing which requires no great amount of force. Two or three sutures now anchor the sac to the muscle and the redundant portion of the sac is cut away. The Bassini operation may now be performed or any other procedure resorted to which the requirements of the case may seem to indicate. Should the surgeon wish to avoid drawing the sac through the muscular tissue, he may proceed as follows:— Having ligated the sac, he leaves the end of his ligatures long and threads each upon a needle. He then removes the sac, and passes an additional suture through the neck of the sac and again threads each end upon a needle. He now insets a finger under the free margin of the conjoined tendon and dissects it bluntly from the peritoneum for a distance of about two inches, at which point he passes his needles through the muscular tissue from within outward in such manner that his knots when tied shall lie in a direction parallel with the muscular fibres and about a centimetre and a half apart. The tying of these knots now draws the neck of the sac firmly up against the posterior surface of the muscle. The author says that when surgeons in general understand more perfectly the object aimed at and always to be kept in mind in such operations, the old practice of leaving the neck of the sac at the mouth of the hernial opening to invite recurrence will become obsolete.

THE EXTERNAL MALLEOLAR SIGN.

C. G. Chaddock and A. H. Deppe, St. Louis (**Interstate Medical Journal,** October), report their experience with the "external malleolar sign" of Chaddock, which is described as follows:—To determine its presence or absence the patient must sit or lie with the lower limbs extended and relaxed and wholly exposed. Relaxation of the muscles of the legs and feet is very essential in doubtful cases, and if possible the limbs to be tested should not be compressed or touched in any way except at thet point chosen for application of the stimulus. The irritation of the skin is best done with a dull steel point (like a dull-pointed nail file.) The area to be tested is the groove which outlines the external malleolus. In this groove the point of the instrument used should be drawn from behind forward until the depression between the malleolus and the cuboid is reached. This depression seems to be the most excitable part of the area. The degree of irritation employed should always be varied from slight stroking to rather severe scratching with considerable pressure, though it is never necessary to cause pain. Normally, this stimulus causes no movement whatever of the toes. The abnormal re-action consists of extension or fanning of one or more or all the toes; a movement of flexion observed in a few cases had the same pathological significance, says Chaddock. It may be found with a negative Babinski. A striking pecularity of the external malleolar sign, says the author, is that with a unilateral Babinski it is the rule to find the external malleolar sign on both sides. In a series of 99 cases of dementia paralytica, Babinski's sign with the ankle sign was found eleven times, the ankle sign was found single or double eighty-six times; neither sign thirteen times. The phenomenon of Babinski certainly occurs without the presence of the external malleolar sign, though rarely, says Chaddock; and thus is shown, as by variations of association, the independence of the two signs. Study of their associations and dissociations may afford valuable diagnostic facts.

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Candy is an important factor in the diet of the soldier on account of the sugar it contains. The sugar gives strength to muscles and helps to produce fat; it delays fatigue, and increases working power. After much hard work, sugar quickly revives and restores the jaded muscles.

THE JOURNAL OF THE MEDICAL ASSOCIATION OF GEORGIA.

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ANONYMOUS CONTRIBUTIONS, whether for publications, for information, or in the way of criticism are consigned to the wastebasket unread.

NEWS: Our readers are requested to send us items of news of a medical nature, also **marked** copies of local newspapers containing matters of interest to physicians. We shall be glad to know the name of the sender in every instance.

HOOKWORM SANITATION.

We are in receipt of a leaflet that is being used in Tift and Lowndes Counties in the campaign against hookworm disease. It is learned that each of these counties have contributed financially to this work, and that it is backed by the physicians, educators and other public spirited men. The leaflet is unusually well designed, conveying truthfully and clearly the salient facts that are of value in intelligent sanitation and prophylaxis. A series of cuts exhibiting plans for a sanitary surface privy, with complete directions for its construction at a minimum cost occupy the inner sheets of the leaflet. Work so well planned and so intelligently pushed forward cannot fail to be productive of great good. Certainly the saving to the community of the energy and development of its seedling citizens will vastly repay the expenditures of this campaign.

While it is doubtless true that enthusiastic investigators of this subject have considerably overstated the total havoc worked by the hookworm, the spectacle of a single family of hookworm victims, who are suffering from a severe type of the disease, is sufficient to rouse the most apathetic to a sense of rebellion, when he reflects how easily all this might be prevented and how readily relieved.

The statistics from groups of apparently healthy men that show a large proportion of hookworm hosts, while convincing as to wide distribution of the infection, are equally convincing that in the majority of cases the parasite does very little harm. Where long search and extraordinary diligence are requisite to find one or two eggs it is generally fairly safe to conclude that, if the person under investigation be sick, he is probably suffering from some other malady in addition to his hookworm infection. The disease seems to do great harm chiefly in children that are living under poor conditions of hygiene and nutrition.

The brightest pages in the history of medicine are those that record its triumphs over preventable diseases and we trust that other counties in the state will follow the commendable lead here noticed until this disease shall be ultimately eradicated.

BLOOD PRESSURE ESTIMATION.

Though it is but ten years since the first work in clinical blood pressure study by means of the manometer was undertaken in this country, the wide acceptance of the prognostic and diagnostic value of systolic blood pressure estimation is evidenced by the fact that so many as a hundred life insurance companies now make the requirement that all applicants over forty years of age shall have the blood pressure taken. The instrumental

estimation of blood pressure bears somewhat the same relation to the estimation by the tacile sense that thermometry bears to a tactile estimation of temperature. The most accomplished clinicians find themselves unable to approximate with any certainty the instrumental readings by the sense of touch. As one says he can in 8 out of 10 estimates come within a few points of the reading of the instrument, but the remaining two, in which he will come wide of the mark, will be the very ones where accuracy is important.

This requirement of blood-pressure readings by the insurance companies will doubtless have considerable educational value. It can be but a short time till physicians in every town will have provided themselves with the instrument. The use of it is so simple that within a few minutes' practice any nurse or medical student can learn to make a good reading. The interpretation of the readings is by no means so simple as the taking of them. There is always a tendency when dealing with instrumental or laboratory methods of diagnosis to expect too much from them, a tendency to read off from a reaction or a numerical computation the answer directly in terms of diagnosis. When it turns out several times that those extravagant demands are disappointed the person employing them is inclined to decry laboratory and exact methods.

Probably the most important field for the blood pressure determinations lies in the study of the high pressures associated with arteriosclerosis and cirrhotic kidney. The accentuation of the aortic second sound, the valve shock, the tortuosity of the temperal and brachial arteries are at best but vague guides as compared with the precise information furnished by the sphygmomanometer. There are many cases of contracted kidney where the urinary symptoms are little instructive. There may be nocturia, and polyuria, low specific gravity without albumen and casts and the diagnosis will hinge largely on whether blood pressure is raised.

The sphymomanometer furnishes also a valuable guide in our attempts to relieve the symptoms due to hypertension, the headaches, vertigo, etc. The nitrites, which form one of our most valuable symptomatic resources, should be used in connection with the instrument, and the same may be said of the hot air bath, rest, iodide and other measures that have proved of value. It will be found for instance that the nitrites must be given in increasing doses generally and we need a guide to determine the rate of increase which will maintain a given result. A fall of about 20 points is about all that can be expected and is usually sufficient to relieve the symptoms, yet a variation of this degree is beyond the scope of a tactile examination.

Low tension is not without its significance, however. Cook, writing in the Medical Record, quotes Dr. Barker as stating that he has come unconsciously to think of tuberculosis as a probability when hypotension is present. Also Lauder-Brunton, who writes in 1909:

"About three years ago I met some of my old students at Bloemfontein and gave them a demonstration on blood-pressure. One of the medical men present was the picture of health, but we found his pressure to be only 100 mm. There was no apparent cause for this, and it was simply put down as a personal peculiarity. About a year and a half afterwards I met him at King Edward VII Sanatorium at Midhurst, and he told me that about two months after I had taken his blood-pressure he developed symptoms of phthisis, and had come home in order to undergo a cure at the sanatorium. I have not sufficient data to justify a generalization, but the coincidence in this case struck me as very remarkable, and I think it may be well to direct attention to the abnormally low blood-pressure as a possible premonitory symptom of phthisis. The blood-pressure is apt to fall much below the normal in cases of general debility from overwork, underfeeding, and especially from acute diseases."

NO BUNCOMBE FOR BUNCOMBE COUNTY.

While a company of medical fakirs thought to prosper by giving buncombe to the people of Buncombe County, (N. C.) events show that they had made their plans without consideration of a medical profession which considers it to be its duty to protect the public from those swindlers who thrive at the expense of the people's health.

According to a letter from a committee of the Buncombe County Medical Society

the society decided to drive out a fake medical company which had opened offices in Asheville, N. C., and had begun to fleece the public. But as the "medical company" claimed to depend neither on surgery nor on the effect of medicines, but instead claimed to cure by electric and radium treatments, prosecution seemed difficult because of the state law.

Some of the "cures" of the swindlers sounded very much like some of the fake gall-stone treatments discussed in the reports of the A. M. A. chemical laboratory and this in the end proved the means of driving these swindlers from town. This occurrence suggests what physicians can do to rid the community of those who prey on its health.

MENINGITIS AND MENINGISM.

The symptoms of meningitis are apparently so striking, so obvious to the most casual examination in well-developed cases, that it would appear at first thought that in its recognition there could arise no diagnostic difficulties. As a matter of fact, however, in a number of infectious diseases, in typhoid, pneumonia, scarlet fever, as well as in certain toxemias arising from the digestive tract in infancy, symptoms of meningitis appear from time to time, which are not to be distinguished from those seen in true cerebro-spinal meningitis. In a certain proportion of the infectious diseases that are complicated by meningeal symptoms, a true meningitis has developed in which the characteristic organism of pneumonia or typhoid can be demonstrated in the pus found in the meninges. In another group of cases, while there are not miscroscopic lesions changes evident either in the meninges or in the cortex, the microscopic examination shows either a cortical inflammation with round cell infiltration or miscroscopic lesions in the meninges. In a third group, clinically not dissimilar, giving the clouded sensorium, the stiffness in the muscles of neck and back, Kernig's sign, and so on, no evidence either macroscopic or microscopic is found postmortem of meningitis or encephalitis Kirgheim and Schroder have analyzed carefully a series of such cases (Deutsch. Arch. f. klin. Med.), and arrived at the conclusion that there is not necessarily a parallel between the meningeal symptoms and the anatomical and histological changes. They believe that a purely toxic factor is at work and that this at times must be invoked to explain the symptoms even in a genuine case of cerebro-spinal meningitis. In the recent epidemic of cerebro-spinal meningitis in Cologne, there were cases which gave, it is true, positive microscopic findings, but in which the pathological changes were too slight to account for the severity of the disease pictured. On the basis of cases like this as well as of those in which the anatomical and histological findings were completely normal, the authors confirm the belief in the existence of purely functional meningism.

The diagnosis between meningism and meningitis is of the first importance and it must rest principally on the examination of the cerebro-spinal fluid. Nothing is simpler than making a lumbar puncture. The only armamentarium required is a needle two or three inches long and of sufficient calibre for the water to drip through, a little iodine to sterilize the skin, and a test-tube to catch the fluid for examination. The practical points in the examination of the fluid are thus summed up by Morse:

"The normal cerebrospinal fluid is perfectly clear, like distilled water, does not form a fibrin clot on standing, and never contains more than 0.1% of albumen, or more than twenty cells per cubic millimeter. The vast majority of these cells are mononuclear. The fluid in tubercular meningitis is usually slightly turbid, sometimes clear, rarely very turbid or purulent, forms a fibrin clot on standing and contains more than 0.1% of albumen and more than twenty cells per cubic millimeter. The vast majority of these cells are mononuclear, usually lymphocytes, the percentage varying from 80 to 98. The proportion of polynuclear cells usully increases with the progress of the disease. Tubercle bacilli can be found in the fluid in about ninety per cent of the cases, if the examination is careful enough. If the examination is hasty, they will usually be missed. A fluid should never be passed as normal because it appears clear when drawn. If a fibrin-clot does not form in twenty-four hours, tubercular meningitis can be excluded. The fluid in cerebrospinal meningitis is usually markely tur-

bid, often purulent, sometimes nearly clear, forms a fibrin clot or a sediment of pus on standing, contains more than 0.1% of albumen and several hundred cells per cubic millimeter. The vast majority of these cells are polynuclear, the percentage usually varying between 75 and 90. The percentage of mononuclear cells gradually increases and finally exceeds the polynuclear in cases which recover. The meningococcus is almost invariably present in the acute stage. Under normal conditions the cerebrospinal fluid flows out slowly, drop by drop, while in both forms of meningitis it usually, but not always, flows out more rapidly or even spurts out."

It is true that in certain cases of genuine cerebrospinal meningitis, the patient succumbs to the early toxemia before extensive pathological changes have had time to develop and before the fluid has become cloudy. Failure of the fluid to clot may be taken as evidence presumptive against the existence of an inflammatory meningitis.

Since the life-saving value of Flexner's serum, which is now always obtainable from the State Board of Health, has been abundantly confirmed, no physician should delay in making the lumbar puncture in cases presenting meningeal symptoms in order that a case of cerebrospinal fever may receive adequate treatment.

FROM THE LITERATURE

EHRLICH'S ADDRESS ON SYPHILIS.

The past seven years have seen advances in our knowledge of the etiology, diagnosis and treatment of syphilis which make it no longer seem Utopian to hope that this plague of the human race may be stamped out.

In 1905 the announcement of the spirocheta pallida as the etiologic agent producing the disease was first made. All the postulates requisite to establishing the truth that this organism is the factor producing the disease have been established. It has been isolated in pure culture and from such cultures the characteristic lesions of the disease have been produced in animals. Its constant presence in the early as well as in the later lesions in the human subject has been abundantly confirmed.

In 1906 Wassermann and his associates published the serum test with which his name is associated. While the Wassermann test is admittedly not specific for syphilis, it is so decisively und uniformly characteristic of the disease that we may accept the report of a positive test coming from a reliable source as sufficient evidence that the disease is present. We are thus in possession of a therapeutic as well as a diagnostic guide vastly more illuminating than any heretofore at our command.

Within the last two years Ehrlich has aroused the enthusiasm of the medical as well as the lay world by the announcement of the discovery of an arsenic compound, now know as Salvarsan, which places in our hands a specific of enormous potency against syphilis, a specific which in untold numbers of animal experiments has shown its power when given in a single dose of sufficient size to destroy all of the spirochetae present in the body.

The discovery of Salvarsan, which is less of a discovery than the result of a series of constructive reasonings, based upon profound laboratory researches, is by no means Ehrlich's first contribution to the progress of medicine. It is upon the basis of his intimate studies into the laws of immunity that the idea of the Wassermann test rests. His statement of the principles of immunity, of toxicology and of cellular nutrition is the most intelligible and comprehensive that has yet been offered. Those who are privileged to have studied most deeply in the farther reaches of medical biology look to Ehrlich as the eminent leader of medical thought today. To a mastery of laboratory techinques he adds the rarer power of generalization. His constructive syntheses, his flashes of insight carry the stamp of genius. Much has been written in magazines and text books in exposition and explanation of Ehrlich's ideas. The comment and exegesis, however, is far less clear and conclusive than Ehrlich's own utterances. The genius in art and letters is prone to exaggeration and one-sidedness. His expressions must be modified and interpreted before unreserved acceptance. This great medical genius is his own best interpreter. If his statements be carefully weighed it will always be found that he is more reserved than his followers, that he lags behind then in optimism and that his prevision has forestalled every criticism that has been urged against his teachings. With his brilliant

qualities he combines all the conservatism that becomes the scientist.

While the time and the taste are not given to all that will admit their concerning themselves with Ehrlich's more recondite studies, we all as physicians have a pressing interest in the use of Salvarsan and it is doubtless upon this discovery that Ehrlich's popular renown will rest. The question that interest us most is the practical one as to the manner of using the drug and the possibility of untoward results following its use. After an analysis of several hundred thousand cases in which Salvarsan has been administered Ehrlich has not seen fit to alter his original opinion as to the dosage to be employed. There has been apparent a widespread inclination, among workers in this country especially, to introduce all manner of variations in their technique of administering Salvarsan. Their views on the subject arise from a priori conceptions as to the action of the drug and from the observation of a series of cases seldom exceeding one or two hundred. Under these circumstances it would appear to be the part of conservatism to adhere to Ehrlich's suggestions.

As to the pressing question of the possible dangers of Salvarsan, to quote from Ehrlich's last address:

"From the very beginning I have regarded the question of the harmfulness of Salvarsan as of the first importance. Lately there has seemed to be a tendency to put forward every accident occuring in a patient who had received Salvarsan, and that oftentimes with little care of analysis, as a demonstration of the harmful effects of the drug, and thus to create as it were, a kind of Salvarsan martyriology. Quite characteristic is a case that went the rounds of the press as a 'Death from Salvarsan' in St. Petersburg. A woman had received an injection of mercury and was found the next morning dead in her home. The police discovered that the woman had been strangled and robbed by her lover who chose as the occasion for his murderous assault the time subsequent to a supposed Salvarsan injection, because he reckoned that this would be looked upon as a satisfactory explanation of her death.

"It was easy to show that certain harmful effects which at first were laid to the account of Salvarsan were due to other causes. Thus the bladder disturbances depended on the employment of a toxic oxidation product. Similar explanations were found for other accidents.

"We must consider, however, other important and frequent by-effects which occasionally may take on quite a severe character—the fever, headache, vomiting and diarrhoea. Like every one else, I myself supposed at first that these symptoms must be looked on as an unavoidable evil. Soon, however, it became strikingly noticeable that in certain clinics these severe symptoms were very frequent while in others they were absent. For instance a doctor in Dresden for weeks continued to find alarming symptoms after his injections. After procuring the water for his Salvarsan solutions for another apothecary he saw no longer a trace of these symptoms.

"Wechselmann was the first to call attention to the fact that these symptoms must depend on the bacteria present in the distilled water used for the solutions and showed that by using water absolutely freshly distilled they may be practically entirely avoided.

"If I am asked now how I conceive of these peculiar phenomena—the only explanation is that under the influence of the dead bodies of the bacteria the body cells take on a hypersensitiveness to arsenic. This reaction must have an unfavorable influence in the process of sterilization, quite apart from the circumstances that, when the fever reaction is marked, grave results may ensue to weak individuals suffering from serious organic disease. I regard it, moreover, as possible that the endotoxines of the disease process may be favored by such a reaction and the disturbances in the cranial nerves may have to do with this fact. It is otherwise quite inexplicable that in certain clinics the neuro-relapses appear far more frequently than elsewhere. Apart from this, we must seriously consider the possibility that once such a crisis of reaction has taken place, some damage to the cells is the sequel of it, and so the cells become over-sensitive to later injection of Salvarsan.

"Other unfavorable symptoms which have been much considered are those effecting the nervous system. We have to distinguish here two different forms:

"1. Those that appear a short time after the injection;

"2. Those that come on later, usually

after two weeks, one, two, three, or rarely four months.

"The first type, the functional disturbances of the nervous system, that appear soon after the injection of Salvarsan, can be explained in the simplest way. Owing to the destrutcion of the spirochaetae, there appears a swelling of the affected area, which we may observe in the skin after treatment with Salvarsan, as the Herxheimer reaction. In a narrow bony canal, however, such a swelling would not be so harmless, but would produce a pressure on the nerves.

"Of more importance are the nervous disturbances spoken of as neuro-relapses, which were originally interpreted as an arsenic poisoning. My valued friend, and fellow worker, Dr. Benario, has compared 194 neuro-relapses under the Salvarsan treatment with 122 cases occurring under mercurial treatment. He was able to establish the fact in the statistical study of these cases that with mercurial treatment, diseases of the nerves (for example of the auditory) occur in exactly the same proportion with mercury as with Salvarsan. In any case, it is clear from his studies, that the idea of neuro-relapses being a great rarity, after mercurial treatment is entirely incorrect. In certain clinics there appears to be an extraordinary accumulation of neuro-relapses after Salvarsan. On the other hand, there are many places, especially the largest clinics, in which they have practically not been observed at all."

After Ehrlich has thoroughly considered all the factors that lead to the conclusion that these nerve relapses are due exclusively to the development of scattered remnants of surviving spirochaetae, and not at all to an injury to the nerves from arsenic, he continues:

"The neuro-relapse is to be referred to the fact that almost all of the spirochaetàe in the body have been destroyed and only scattered remnants of them survive. We are dealing with a sterilization of the body which is almost complete, a sterilisatio fere absoluta. These few organisms live under improved conditions of existence, because their competitors have been gotten out of the way. Since for anatomical reasons, Salvarsan reaches the nerves with difficulty, most of these remnants of the spirochaetae are foun there, and consequently there they exhibit their most frequent and earliest manifestations.

"Finally, I have yet to consider the cases of death occurring in connection with the administration of Salvarsan Among the relatively large number of cases treated, there has been a small number of patients with whom Salvarsan has been resorted to as the last hope of rescue. From the beginning, I myself have advised special caution in using the drug in such cases. I have constantly repeated this caution, and I believe if my warning had been considered the great proportion of these deaths would have been avoided. I believe also that it will be possible in the future entirely to avoid accidents of this sort.

"When we consider that in the course of the last year several hundred thousand patients have been treated with Salvarsan, the number of accidents is, as a matter of fact so small, that they can in nowise give occasion to serious hesitation.

"We may venture then to say, that through the experience of the last year Salvarsan has come to be known as a relatively harmless substance; we have seen that the acute reactions are to be ascribed to imperfect technique alone.

"In numberless animal experiments, a cure of severely diseased animals has been readily accomplished. Extensive experiments in Russia have shown that a single injetion of Salvarsan is capable of curing permanently chickens and geese severely infected with spirillosis. In relapsing fever, in Russian, in Spain and on the Congo, Salvarsan has shown itself to be means of sterilizing the body that is truly wonderful. A single injection suffices at one stroke to free the patients of the parasites, and to lead to a permanent cure. Quite as brilliant are the results in the treatment of framboesia (a spirochaetae disease, with strawberry-like growths in the skin). In Surinam there have been altogether nine hundred framboesia patients treated, and only three have suffered a relapse. In the framboesia hospital at Groningen, in Surinam, there were 328 patients suffering with framboesia. They were under the care of Dr. Koch, the Medical Director, Dr. Flu, six other doctors and five medical students. These genetlemen constituted the Salvarsan brigade, and in the course of eight days all the patients received the treatment; after two weeks

the last patient was dismissed from the hospital and thus there appears perhaps the only recorded case in the history of medicine in which the hospital erected for the treatment of a malady had to be closed. I may make mention that excellent therapeutic results attend the use of Salvarsan in tertian malaria. Bilharzia (a tropical infection of the bladder) seems to be brought to sterilization by means of a single injection. The Aleppo boil, caused by the Leishman bodies, can also be cured with Salvarsan.

"We should not forget that extraordinary difficulties had to be encountered in testing Salvarsan as a therapeutic agent. It was first necessary to proceed prudently experimentlng to determine the best means of employing it, to find out its untoward effects, the possibility of increasing the doses and of repeating them, and to explain any ill effects that they might in future be avoided.

It appears now that in suitable forms of syphilis Salvarsan when used in sufficient doses and often enough repeated is able to bring about a complete sterilization of the body and that by this means results may be gotten which are unattainable with mercury. On the other hand it appears also that by a combination of Salvarsan with mercury excellent results are obtined and that it is possible by means of a combination of the two remedies to sterilize the body by means of smaller doses of Salvarsan than would otherwise be necessary.

"It has already been emphasized by many authors that from the sociological standpoint our most important task is to treat the early forms of syphilis. From the reports that reach me it would appear that in over 90 per cent. of cases it is possible to bring early syphilis to a termination in cure."

After a thorough discussion of the method best suited to the early treatment of syphilis Ehrlich concludes:

"If we should really succeed in bringing the great majority of early syphilitic cases to a definite cure, we would certainly have achieved a notable advance in the struggle to outroot entirely this frightful scourge.

"Whether a lasting cure is obtainable in the later stages of the malady or in how far a cure is possible is a question that is yet open.

"In any case I believe that the question of the cure of syphilis is one that must be solved by the dermatologist, and that the other branches of medicine and especially neurology will not be able to make genuine progress until the pioneer work, the elaboration of a method of procedure shall have been accomplished on material that lends itself more readily to observation."

PRACTICAL VALUE OF WASSERMANN TEST.

In the Medical Record of Nov. 18th, Stein rehearses some of the practical values incident to the employment of the Wassermann reaction. "The serum of the patient," he says "should be examined at frequent intervals during the course of whatever treatment is employed, in order to ascertain how the treatment affects an important symptom of the disease, viz., the deflection of the complement. If after a thorough course of treatment, however, long, the Wassermann reaction is still positive, the treatment must be continued.

"It sometimes happens that in a case that has been under mercurial treatment a negative reaction becomes postive. This phenumenon is analogous to those clinical syphilitic manifestations which may appear during the course of treatment. In such cases we are probably not dealing with mercury-fast spirochetes, but it is the method of treatment which is not efficient. After a single intravenous injection of salvarsan the positive reaction becomes negative much more rapidly than after a long course of mercurial treatment.

"The prognosis is unfavorable in those cases which, in spite of antisyphilitic treatment, still show persistent positive reactions, such reactions being usually the forerunner of dementia paralytica. It is doubtful whether there are any cases in which the serum, after a proper treatment by mercury or salvarsan, does not give a negative reaction. But a single Wassermann test showing a negative reaction has no prognostic worth. It is only good for the time when it is made. If, however, the reaction remains continuously negative for a number of years, and there are no manifestations of syphilis, the prognosis is favorable, and the treatment may be discontinued. In such cases the patient's serum should be from time to time

examined, and if a positive reaction occurs treatment should be at once renewed.

"A few instances in which the Wassermann reaction is of great imporance are in neurology and psychiatry, where the positive reaction of the blood serum and the cerebrospinal fluid after lumbar puncture, combined with the globulin reaction (Nonne-Apelt) and the cytodiagnosis (Nissl), are considered of great value, in the differential diagnosis of liver and kidney diseases, in cases of aneurysm, especially of the aorta, where the reaction is always positive, in cases of arteriosclerosis and aortic insufficiency, in which in thei rearly stages the reaction is generally positive, and in the differential diagnosis of malignant tumors, tuberculosis, eye lesions, etc. It should be remembered that the Wassermann reaction is not a local but a constitutional reaction and that scrapings or an excised part of the tumor should be examined in addition to the blood serum.

"Two old laws have been disproved through the Wassermann reaction, viz., (1) Colles law, that the mother of a syphilitic child is immune to syphilis, i.e., is healthy; (2) the Profeta law, according to which the child of a syphilitic mother is immune to syphilis. But the Wassermann reaction demonstrates that in the former case the mother and in the latter case the child are syphilitic, both giving positive reactions, and therefore only appearing immune.

"Syphilitic children often have no obvious symptoms of lues. The Hutchinson triad (notched teeth, otitis, interstitial keratitis) is not often seen. In fact, syphilis in children is often indicated only by a simple anemia or some slight nervousness.

"A physician who recommends a wet nurse without first having her blood serum examined may be said to be almost criminally negligent.

"The estimate that the death of 33 per cent. of syphilitics occurs permaturely, due to the sequelae of the luetic infection, indicates the great importance of the Wassermann reaction in life insurance.

"In forensic medicine the Wassermann will likely play an important part, for the evidence of the specific reaction of the blood serum or cerebrospinal fluid may be more convincing to a judge and jury than that deducted from a discussion of psychiatrics in court.

"Inasmuch as a positive reaction proves the presence of living spirochetes in the patient's body, every individual whose serum shows a positive reaction should be immediately treated for syphilis, not only as a prophylactic measure for himself against the seoulea of the luetic infection, but also that he may not be a menace to his family and society.

The blood serum of nervous and anemic children as well as, of course, that of every syphilitic about to enter the marriage state should be examined as to its reaction."

The practical difficulty about making the Wassermann test as often as the interest of the patient and of society demands is he cost attending it. While the usual fee of ten dollars is small when compared with the amount of labor involved in making a single test, it is, as a matter of fact, very little more trouble to make forty tests than one and once the materials are in stock, that number can be made in the course of a few hours. The eradication of this disease is of such social importance that the work should be undertaken by states and municipalities and done wihout charge to the individual. While people are willing to spend their money freely for therapeutic advantages, they pay less cheerfully for diagnostic procedures. Since society has now come into the possession of means through the recent advances in the diagnosis and treatment of syphilis, which encourage us to hope for the ultimate extermination of this contagion, it is essential that these resources be placed at the disposal of every citizen.

TUBERCULOSIS TREATMENT.

Denys recently reported on 470 patients in all stages of phthisis attending his clinic. Seventy-one per cent. have recovered or improved greatly. He claims that these remarkable results were due to the inoculation treatment, as it was impossible to living. Trudeau, from the Adirondack Cottage Sanatorium, reports that of the moderately advanced cases treated in the sanatorium for ninety days or more, 6 per cent. are apparently cured by the routine method, while if given tubercle vaccine in addition, 27 per cent. are apparently cured

(four and a half times as many). About an equal number are arrested by the two methods. By the routine treatment, 43 per cent. are unimproved, while when given the specific treatment in addition but 18 per cent. are unimproved. For the incipient cases there is a slight advantage for those receiving the vaccine, but nearly all do well in this stage by either method of treatment. Still relapses are much less frequent among those receiving the vaccine. Pottenger of the sanatorium at Monrovia, California, has used it in many hundreds of cases, and observes that a great percentage of favorable results are obtained. Patients do not develop as many complications and extensions of the disease, improve faster, thus saving time, and do not suffer relapses nearly as often. He writes that tuberculous laryngitis yields readily, fistula and tuberculous lymph nodes, tuberculous otitis media, and, tuberculosis of the genitourinary tract have almost universally been improved and a fair precentage of them cured by tubercle vaccines. H. A. Craig, Medical Record.

BLOOD CHANGES IN NEPHRITIS.

In the Deutsch, Arch. f. Klin. Med. for November, Hohlweg contributes an interesting article, bearing upon the pathogenesis of uremia. By residual Nitrogen he means the nitrogen remaining after the serum has been freed from albumen. His conclusions he expresses as follows:

1st. The residual nitrogen of the blood-serum on the average amounts to 51 milligrams in 100 cc. m. of blood serum.

2d. In nephritis the total quantity of residual nitrogen is increased to from 63 to 93 milligrams in 100 cc. m. of serum. No fundamental differences can be established between parenchymtous and interstitial nephritis.

3rd. The amounts found in nephritis are not notably increased even in the presence of marked uremic symptoms so long as the patients are capable still of improvement. If the residual nitrogen remains between 60 and 65 milligrams to the 100 cc. of serum, the prognosis may be regarded as relatively favorably in case no other severe trouble, as for instance from the heart, complicates the case.

4th. In the last weeks or months of life the residual nitrogen in the blood of those suffering from severe nephritis, increases quickly or slowly up to the highest point, it making no difference whether uremic symptoms are present at the same time or not. The increase in the residual nitrogen value is found to be greater the shorter the time before beath that the blood for investigation is taken.

5th. These enormous accumulations are caused by an increase of those materials that normally leave the body in the urine, as nitrogen containing n. products. The increase of the residual nitrogen results almost exclusively from great excess of urea, which in such cases forms about 80% and by a small increase in the fraction that cannot be precipitated by tannin (amino acids.) The proportion of the residual nitrogen that can be precipitated by tannin takes no part in the total increase.

6th. The rise in the residual nitrogen is solely the expression of renal insufficiency and is not specific for uremia.

7th. In patients with nephritis that succumb to other causes, as for example to heart disease, there is toward the end of life no especial rise in the residual nitrogen value. In patients that show no changes in the kidneys at all, the residual nitrogen values are found normal, even in the last hours of life. Consequently the enormous increase in the nitrogen value, amounting to over 120 milligrams in 100 cc. of serum, is a phenomenon that is characteristic of cases of nephritis on the point of ending fatally.

8th. In cases of doubtful diagnosis, the estimation of the residual nitrogen may give valuable information. The size of the values found furnishes a criterion for estimating the functional capacity of the kidney and an indication toward prognosis.

ULCER OF THE STOMACH AND DUODENUM, WITH SPECIAL REFERENCE TO THE END-RESULTS.

Dr. William J. Mayo, Rochester, Minn., read this paper at the annual meeting of the American Surgical Association, at Denver, June, 1911:

Of 1,000 cases in our series, 428 were classified as gastric and 572 as duodenal ulcer. Of 379 cases of gastric and duodenal ulcers operated on previous to June 1, 1906, 227 (59 per cent.) were classified

as gastric and 152 (41 per cent. as duodenal. Of 621 cases of gastric and duodenal ulcers operated on from June 1, 1906, to January 17, 1911, 201 (32.5 per cent.) were gastric, 401 64.5 per cent.) duodenal, and 19 (3 per cent.) had an ulcer of each viscus. That at least two out of three cases of ulcer will be found to have their origin in the duodenum rather than in the stomach is a conservative estimate. Of the 1,000 cases, 225 were women and 745 (practically three out of four) were men. The operative mortality in this series was 2.4 per cent. Three hundred and seventy-nine of these patients were operated on previous to June 1, 1906, before the operative technic had been well worked out, and the imperfections in methods were responsible for some failures to cure and an increased morality. In studying the histories of the gastric ulcers we found that practically all situated close to the pylorus and accompanied by obstruction, were relieved by gastrojejunostomy, whether or not the ulcer was excised. However, whenever it was possible to do so, we excised the ulcer because of the liability to cancer degeneration. In a few cases very extensive ulceration of the body of the stomach precluded the employment of any operation on the stomach, and jejunostomy, with complete rest of the organ for some weeks, has been necessary. The results were good. It is very evident that operations for duodenal ulcers present a higher average of cures than operations for gastric ulcers. Gastrojejunostomy, with or without infolding the ulcer, not only affords a great relief to the patient with duodenal ulcer, but a permanent cure in a remarkably high percentage of cases.

TUBERCULOSIS OF THE KIDNEYS*

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Tuberculous conditions in the kidney may be grouped into two main classes; first, those in which the disease is part of a general miliary tuberculosis; second, those in which the tuberculous process is apparently primary in the kidney, and, in early stages at least, confined to the kidney itself. The cases in the first group are not amenable to treatment and need not be considered in this discussion. Cases in the second group are always of interest to the general practitioner and the surgeon,and, in the majority of instances, radical treatment gives excellent results.

In about 80 per cent of all the patients with kidney tuberculosis who come to this clinic the disease is confined to one kidney, but autopsy statistics show both kidneys to be involved in 75 or more per cent. The disease is therefore unilateral, as a rule, but the body resistance becomes lowered, and the second kidney is involved as a terminal infection. The implantation of the tubercle in the kidney is hematogenous, and the involvement of the ureter and bladder is from inoculation by means of the infected urine.

Occasionally the bladder will be involved secondary to some tuberculous organ other than the kidney. In such cases chronic obstruction to the outflow of urine from the bladder may cause the ureteral orifices, if they are involved, to yield to the chronic back-pressure, thus permitting the entrance into the kidney of infected urine, and consequent tuberculous pyelitis.

Primary tuberculosis of the bladder is rare. In a large percentage of cases tuberculosis of the bladder is secondary to kidney tuberculosis. In the male it may be secondary to tuberculosis of the prostate, seminal vesicles, and epidymus, and in the female to tuberculosis of the genital organs.

In the early stages of the disease there may be only a slight enlargement and congestion of the kidney, with a single tuberculous focus in one pole, usually the upper. Sooner or later the adjacent portions of renal tissue become affected by direct continuity, and with the advancement of the process the individual tubercles progress through their varying stages until caseation takes place. These tubercles tend to coalesce and result in necrotic areas of more or less extensive formation. With the advent of secondary infection the evidence of the tuberculous origin of the disease is gradually overshadowed, and the condition finally becomes a pyonephrosis, often so marked as to leave little evidence, either macroscopically or microscopically, of a tuberculous process, so that the gross cut-surface appearance

*From the Journal of the Minnesota State Medical Association.

of the organ varies from an isolated, caseating nodule in one pole to complete destruction of functioning tissue, the socalled "dead kidney."

Symptoms—Owing to the latency of the disease it is difficult, and probably impossible, to determine how long the tuberculous infection has been present before producing symptoms. Perhaps the earliest symptom arises from the caseation of the tuberculous focus, casing either a mild bladder irritability or pain in the renal region, or both. As an early sign there may be a smart hemorrhage, leaving blood in the urine for two or three days. So soon as the process is advanced enough to produce an infected urine, a cystitis is set up, after which the most distressing symptoms are referred to the bladder. Polyuria, vesical tenesmus, dysuria, and occasionally hematuria, though not often profuse, are all common symptoms. Fever may not be present until secondary infection takes place. An enlargement of the kidney may be sufficient to be palpated in the loin as a tumor. Sooner or later, from absorption, pain, and disturbed rest, the general health of the individual is affected, as shown by loss of weight, appetite and strength. The urine shows pus and evidence of blood in various amounts and, as Braasch and Thomas' have demonstrated, the tubercle bacillus is present in four out of five cases.

Diagonsis—The fact that a tuberculous process in the kidney may attain considerable headway without producing symptoms sufficient to cause the patient to seek relief, renders an early diagnosis, when symptoms do appear, of the utmost importance. It is equally true, and fortunate, that, with the modern refined methods and accurate results of cystoscopy and ureteral catheterization, renal tuberculosis can be recognized early. To the general practitioner a cystitis, which is no gonorrheal or trumatic or due to stone or enlarged prostate, should be suspicious of a kidney lesion, probably tuberculous, and the patient should be given the benefit of an examination of the genitourinary tract and of the kidneys by a competent cystoscopist. Upon catheterization of the tuberculous kidney the urine will usually show tubercle bacilli, pus and leucocytes, and a quantity of pale urine of low specific gravity, indicating that the function is greatly reduced.

Treatment—When the diagnosis has been made and confirmed the question of treatment is easily decided. If it can be shown that the disease is confined to one kidney, removal of the kidney is indicated. At the present time this procedure is recognized as the rational and the best treatment offered the patient, and is proven so by comparative results.

In about 20 per cent. of the cases the ureter is involved to an extent to require removal. It has been the practice in this clinic to inject the ureter with from 10 to 15 m. of 95 per cent. carbolic acid, and then tie with catgut. Treated in this manner, the urete rrarely gives subsequent trouble.

As regards conservative treatment: It is claimed that many patients recover spontneously, but it should be borne in mind that tubercle bacilli may pass through a healtthy kidney, and finding tubercle bacillin in the urine without other evidences of disease does not prove that the kidney is tuberculous. In some instances patients will be supposed to be cured becase the pus, blood, etc., have stopped coming down, but a cystoscopic examination may show the condition to be a pathologic nephrectomy, or "dead kidney." In these cases the ureter is closed, and the retained products are a constant menace to the patient.

Partial nephrectomies are rarely permissible, since microscopic foci exist outside of the area of macroscopic evidence of the disease.

Occasionally tubercle bacilli and infected urine will be found coming from both kidneys; if so, and the patient is in good physical condition, and exploration of the kidney may be made. If one kidney is found extensively diseased and the other in fair condition, the one most affected can be removed successfully, the remaining kidney not only functionating for both but often healing under the stimulus of an increased blood-supply.

It sometimes happens that the cystocopist cannot determine the condition of one of both of the kidneys because of the extent of bladder involvement. In such cases both kidneys should be explored through a lumbar incision, in order to determine, definitetly, the conditions be-

fore operation is undertaken. To neglect this precaution may cause the unnecessary death of the patient.

The immediate operative mortality of nephrectomies for tuberculosis of the kidney is small, depending largely upon the condition of the individual patient. For example, in a series of 99 consecutive cases operated on in St. Mary's Hospital there were but two deaths.

PEROXIDE OF HYDROGEN IN HYPERACIDITY.

Hydrogen peroxide has found a place in the treatment of hypracidity. Winternitz, who first recommended its use in this condition reports his experience with it during the past two years. Hydrogen peroxide is said to owe its effect to the neutralization of the acids of the gastric juice by an increased secretion of mucus. After a test breakfast to which a 1-10% solution of peroxide has been added the figures for the total acidity are free hydrochlonic acid which were formally abnormally high fall to normal or very subnormal. Yet even ½% solution which lead to very great reductions in the acidity and more often to total anacidity produce this effect for not more than two hours. If half a pint of ½% peroxide solution be taken on an empty stomach in the morning for a week or two even this will not induce an enduring diminuation of the acid. It is true that the use of oil and atropin are open to the same objection—that their effect on the acid secretion is transient—so that it is an addition to our resources to attempt the peroxide. It is to be used in solutions of from 1-10 to 1-4 per cent. there being added four grains of phenacetin to the liter for the purpose of rendering the solution more stable. In a number of cases the discomfort of the patient has been shown to be unmistakably relieved and in a certain percentage of cases there has been a permanent improvement. A useful combination of the peroxide treatment with the customary alkaline treatment is found in the suggestion of Magnesium peroxide in doses of from 10 to 30 grains thrice daily. Indeed it is not intended that the use of peroxide should exclude alkalies from the treatment of hyperacidity and the use of alkaline waters is advised as the most suitable form for this administration.

(Deutsch. Med. Wock, No. 30.)

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265 CONSECUTIVE CASES OF TUBERCULOSIS AMONG INSANE NEGRO WOMEN.

One of the chief points of interest concerning the cases herein referred to lies in the fact that they do not represent cases selected for treatment, but show the character of the disease as met with from day to day.

These observations extend over a period of about five and one-half years, ending Jan. 18, 1911.

Etiological Factors: The natural susceptibility of the negro is merely mentioned. Among the insane, the lowered vitality, the lack of voluntary motion and exercise and filthy habits in many instances predispose to the disease. The question of age is of some importance in considering the mortality from tuberculosis. In a pamphlet prepared by the Census Department for The International Congress on Tuberculosis at Washington, it is stated that 84 per cent. of people dying from tuberculosis succumb to the disease between the ages of 15 and 70. This statement is based on figures from registration states alone.

We have been unable to secure a table giving the number of persons living within each age period in the United but in Prussia 61% are within the limits mentioned. Within the past five years the Sanitarium has received 4,496 patients of whom more than 90 per cent. were between the ages of 15 and 70. As can be readily seen this is a factor of no mean importance, since more than 90 per cent. of our patients are within those age limits when 84 per cent. of the deaths from tuberculosis take place. Whereas, in a sane community only about 61 per cent. are within the limits.

One of the chief local etiological factors is found in the crowded condition of the wards. The normal capacity of the main building for negro women is 310. The average number accommodated is about 420 or 38 per cent. more than the capacity. In the dormitories the number of patients is limited not by air space, but by the number of beds than can be placed therein. Here the air space scarcely exceeds 500 cubic feet per patient. It is also quite

difficult for the night nurses to keep the windows up in these rooms. The day rooms or porticoes have also been utilized as sleeping quarters, bedding being placed on the floors at night. During 1906 and 1907 note was made as to the sleeping quarters of seventy-four consecutive patients found to be suffering from tuberculosis. The percentage according to population was 130 per cent. higher among the patients from the dormitories than from regular rooms, and 170 per cent. higher among those sleeping in the day rooms.

In 1909 and 1910, 290 patients, who had been in the institution for more than three months, were examined. Of these 118 slept in rooms, 158 in dormitories, and fourteen in day rooms. A positive diagnosis was made in 6 per cent. of those sleeping in rooms; in 13 per cent. of those sleeping in dormitories; and in 14 per cent. of those sleeping in day rooms. Eighteen per cent. of the room patients were suspected; 19 per cent. of the dormitory patients; and 28 per cent. of the day room patients. Exclusive of seventeen patients admitted with positive findings, the average length of residence at the time of diagnosis was 3.03 years. The average age at time of diagnosis was 36.7 years.

One meets with many difficulties in making an early diagnosis of tuberculosis among the insane. Many do not complain at all, and it is quite impossible to obtain a reliable history especially among negroes. Subjective complaints may not be obtainable, and many not only fail to cooperate in physical examination, but even resist all efforts made in that direction. Subcutaneous injections of tuberculine were used in suitable suspected cases.

Classification: Chronic pulmonary forms have been classed according to the modified Turban scheme. The chronic general forms referred to correspond to the chronic form given by Weigert. When more than one organ or set of tissues were involved the case was classed according to what appeared the most prominent or serious feature.

There were of:

Polyserositis	1
Enteric	2
Adenitis	5
Pleurisy with Effusion	7
Acute Miliary and General	33
3rd Stage Pulmonary	44
2d Stage Pulmonary	123
1st Stage Pulmonary	50

Complications: Among the complications noted were: Organic brain disease in one patient; convulsions occurring in the course of dementia praecox in one; organic heart disease in three; infection of finger with amputation in one; fulminating appendicitis in one; tuberculosis of kidney in one; tuberculosis of intestine in five; pleurisy with effusion in eight; tubercular adenitis in eight; paresis in one; necrosis of ankle joint in one; pellagra in eight; epilepsy in four; tubercular peritonitis in one; pericarditis in three; hypertrophic tuberculosis of the caecum in one. The necrosis of ankle joint necessitated amputation. Death took place suddenly about twenty-four hours after the operation. The patients suffering from tubercular peritonitis and hypertrophic tuberculosis of caecum were also operated upon. The former is in good health five years afterwards. In the case of the latter the caecum was resected, and one year after operation is strong and well nourished. This case has been reported in detail elsewhere.

Treatment: Here again obstacles present themselves. Many patients belonging to the dementia praecox group are utterly indifferent as to their welfare, and will make no effort to carry out instructions. Systematic regulation of exercise and rest is almost impossible. They take nourishment irregularly, and persuasion is not always effective. It has been necessary in one or two instances to feed patients with stomach tubs. A majority of the patients have been kept in open air day and night. Some are violent or noisy at intervals, and removal becomes necessary for the protection of others.

The open air treatment was begun in the summer of 1905. During the warm, dry months of that year a few tubercular patients were moved into a small yard where there were only trees to protect them from the dew. Mentally, these were chronic cases, and they became well pleased with the change, although it was occasionally necessary for them to be returned to the wards when rain threatened. In July, 1905, the trustees caused to be erected a pavillion. A small tent was also provided. Since that time two more pavillions have been erected, each an im-

provement over the original. It was not until the past year that accommodations were provided for all. The general principals of treatment followed were the same as are carried out in tubercular sanitariums for the sane. Drugs have played an insignificant part. Tuberculin was employed with very good results in glandular cases, and in one case of lupus not here included.

Mortality: Of the thirty-three patients with acute miliary and general; two with enteric and one of polysersitis all died. Of five patients with adenitis four were improved, and one died of other disease. Of seven with pleurisy with effusion five recovered, one was improved, and one died of other disease. Of the patients with chronic pulmonary tuberculosis in third stage, thirty-seven died, six were furloughed not improved, and arrest took place in one. Of 123 in second stage, twenty-one were cured; twenty-six arrested; forty-one died; eleven improved; eight died of other disease; four not improved; five removed by relatives improved; seven removed not improved. Of fifty patients in first stage, twelve were cured; sixteen arrested; three were improved; seven removed improved; two removed not improved; seven died; one was worse, and two died of other disease.

The average gain in weight of patients arrested in second stage was 25.5 pounds; of those cured 29.6 pounds.

Of those in first stage the average gain in patients, in whom the disease was arrested, was 22.7; in whom cure resulted 22.7. The highest individual gain was eighty-four pounds.

The average length of life of third stage patients who died was fifty-three days; of those in second stage, 196 days; of those in first stage, 565 days, or in the ratio of 1, 3 and 10. The percentage of recoveries and arrests in the three stages of pulmonary tuberculosis was in the ratio of 1, 19 and 28, showing the enormous advantages of early diagnosis.

The influence of isolation and treatment on the death rate among the colored females has been very gratifying. In 1905 the ratio per 100,000 was 9,317; in 1906 6,677; in 1907, 4,451; in 1908, 5,037; in 1909, 2,664; in 1910, 2,936. In other words the death rate in 1910 was less than one-third of rate in 1905.

THERAPY OF PULMONARY TUBERCULOSIS.

Louis C. Roughlin, M.D., Atlanta.

Of all chronic diseases tuberculosis is most amenable to treatment, but the most difficult to treat it. The cure depends largely upon the early recognition of the disease, the promptness in the application of treatment, the intelligence of the physician applying it, and upon the intelligent co-operation of the patient receiving treatment. There is probably no disease which is more mistreated, for the very good reason that there is no disease more difficult to treat.

Before beginning treatment the physician must make as thorough an examination as possible, not only of the lungs, but, of the entire condition of the patient. He must study the temperament, the nervous condition, previous environments, habits, education, and vocation of the patient, and recognize that this varies in different individuals. He must prescribe such remedies, diet, and give such instructions as will suit the different patients. This disease requires for its successful treatment the strictest individualization. You must adapt remedies to **suit** the patient and to his disease—**You can not make the patient or the disease adapt themselves to your remedies.**

The physician must have the confidence and co-operation of the patient. The disease does not run a smooth, even course under the best conditions. The patient has times when he is not feeling well, in fact, his condition may seem apparently much worse. The physician must be able to satisfy his patient, explain the cause of the changes occurring, make him contented and willing to continue the fight. You must remember that it is not so easy for a patient to understand the reasons for your various orders. He does not know the pathology of the disease, does not understand the chronicity of its course, he tries, and it is difficult to remain good, and co-operate for a long time, and be contented, even when one knows it is necessary for a cure.

On the other hand, you must also be able to keep the patient on guard when he is getting well. He must be made to realize that this is a dangerous time; you must prevent over-confidence without

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depressing the patient. The patient must be **willing to let you guide him** on all occasions, circumstances, and conditions. **You can not make him do it.** I have seen in sanatoria patients who were getting along well, consider the sanatoria a place of amusement and pleasure, instead of a place for the care of tuberculosis. It is almost impossible to individualize in private institutions. Such places must have a system—usually such a system is based on profit and business principle. All cases can not adapt themselves to such a system. To some cases a particular system is absolutely injurious.

It is not the purpose of this paper to advocate any special specific medication. The use of vaccines and tuberculins in selected cases is of the utmost value and benefit to the patient, but, it is not applicable to all cases; and their administration in selected cases must be governed by the individual conditions that may arise during the administration. Used indiscriminately they are bound to produce a great deal of harm, and little, if any, good. Neither is it my intention to recommend a long list of drugs to pour down the patients throat. We have graduated from the stage of vaunted specifics, which are not specifics, and also are rapidly passing out of the stage of expectorants, tonics, emulsions, etc., to the rational management of the disease by means of hygiene, rest, diet, open air, and scientific guiding.

Rest is essential for repair of tuberculous tissue. It reduces night sweats, and temperature, it prevents exhaustion, prostration, and dyspnea, it helps the cough, and diminishes the danger of hemorrhage. In moderately advanced cases rest is of more importance than open air. The rest should be **complete rest—mental** and **physical,** with the actual relaxation of the patient in bed for 24 hours. A temperature of 99.5 degrees counter indicates the permission of any form of exercise—especially walking; an afternoon temperature of 100 degrees despite the absence of fever earlier in the day demands a restriction of all physical efforts; while a temperature of 101.5 degrees and over demands the recumbent position in bed indefinitely until the fever has materially abated. As a whole, fever, weak, or rapid pulse, is a counter indication for any physical exercise, and when evercise is resumed, such as walking, the utmost precaution should be taken against fatigue.

Pure, fresh air is essential and the patient should be encouraged to stay out in the open air all the time, proper care being taken to avoid catching cold, or chilling the body. On the whole the temperature of the air is of no importance—tubercular patients are only affected by rapid changes, or sudden falls of temperature, and proper precautions should be taken for these unavoidable conditions. For night air the ordinary sleeping room provided with a Dr. Knopf window tent has many advantages, and is in my opinion far superior to the ordinary shacks, or tents.

In cases where no lesion can be found, but, where there is a tendency to tuberculosis as shown by history, chest formation, or exposure to infection, and in absence of fever much good can be derived from open air exercises, accompanied by training of respiratory powers. In these cases the rule of Brehmer must be constantly borne in mind, "The healthy man sits down because he is tired, the consumptive should sit down so as not to become tired."

Patients should be impressed with the fact that all over-exertion is poison, and that their feelings should be their guide at all times. Perspiration, palpitation, acceleration of pulse, rise of temperature, feeling of weakness, discomfort and headache are all signs of having over-stepped the limit.

The patient should from the outset be impressed with the importance of diet in this disease. Directions should not be given in a general way, but, should be specific, covering both the articles to be eaten, and those to be avoided; the time for taking the food and the amount to be taken should be carefully outlined. These points vary with different patients, but, each case must be studied individually in order to attain the best success. The nutrition of a patient is a reliable guide as to the progress of the disease. If the patient takes sufficient nutritious food, is digesting it and gaining in weight, the prognosis is good. If the reverse is the case, the prognosis is bad. A persistent inability to digest food is one of the most unfavorable symptoms—care must be taken to avoid disturbing the digestive system. The appetite is not a good guide to the amount of food to be taken. In most

cases more food can be digested than the appetite demands. The desire of the patient should be consulted as far as possible, the nationality, character, and previous customs as regard to diet must be considered. Each case must bc studied individually and diet prescribed to suit each individual case and taste. There can be no successful routine diet for all cases, even of the same class. The patient should be instructed to rest at least half an hour before and after each meal, and a good mouth wash prescribed to rinse the mouth before and after eating.

The intelligent use of drugs as remedies to meet the varying needs, requirements, and complications of tuberculous individuals is not only eminently proper, but, absolutely essential. The extent to which the general practitioner and laity have been impressed with the supposed disadvantage of drugs for the consumptive has produced an unreasonable and unjustified prejudice against their employment, and is the cause of much embarrassment to the intelligent physician who seeks to utilize the beneficent effects of judicious medication, in order to control untoward symptoms. The suppression of hemorrhage, the restoration of the various digestive disturbances, disorders of elimination, and the alleviation of the various disturbed function are often wonderfully facilitated by the judicious and selective choice of drugs—and to deny their usefulness in the hands of discriminative, conscientious, resourceful physicians is as unwarranted as to repudiate the value of drugs in any disease. For the general condition the indication for drug therapy are few, and in comparison to the other measure drugs are relatively unimportant. In selected cases, however, the intelligent use of drugs is of some value.

Creosote and its derivatives has been the most used as well as the most abused drug in this disease. It has no specific action upon tuberculosis, but, in selected cases I have found it valuable in small doses minims 3 to 5, for the secondary infections such as simple bronchitis, also for its stimulating effect upon the bronchial mucous membrane, while in hyperpyrexia with nausea or for analgesia in complicating neuritis and intercostal neuralgia I have found thiocol in 5 grain doses to be of decided benefit.

Icthyol given in doses of 10 drops mixed with an equal amount of pure olive oil continued for some time is of utmost value. It is well borne by the stomach, it loosens and reduces expectoration, increases the appetite and seems to have a fine effect upon the nervous system. To overcome its disagreeable taste and odor I prescribe it in elastic capsules. It also seems to have a beneficient effect in diarrheal conditions.

Strychnine alone or combined with arsenic is of great advantage as a general stimulant. It helps the lowered blood tension and jaded heart; it should not be given in too large doses for a long time, and especially the effect of the arsenic should be watched carefully. For general purposes, in the absence of counter indications the administration of gr. 1-60 of strychnine with gr. 1-60 arsenic or, **one** to **three** drops of Fowler's solution will increase the appetite and stimulate the general functional activities.

The use of easily digested fats and oils, such as usually found in the market is of advantage in a certain class of patients. Much care should be exercised in their employment on account of their tendency to retard digestion. They should not be given to patients with fever or gastric derangements. As a general rule they are better borne in winter than in summer. Their greatest usefulness is found in the treatment of individuals, who can not for financial raesons obtain the proper amount of nutritious diet. But, where the patient is able to supply himself with plenty of good cream, butter and eggs, the use of emulsions of fats and oils is superfluous, and in such cases may even be considered injurious.

Inhalations and sprays are of value only for the local catarrhal affections, such as laryngitis, pharyngitis, and possibly simple bronchitis., It has no effect upon the disease; the routine inhalation of oxygen is absolutely of no value. Oxygen itself has no effect on the disease; the haemoglobin absorbs all the oxygen it can in combination from the air, and super-oxygenated gases increase only the oxygen in the serum. Ozone is an indicator of pure, fresh air, **but, ozone itself is not pure, fresh air.** It is an irritant to the respiratory mucous membranes, and more injurious when it is absorbed.

In conclusion I desire to impress the fact that in tuberculosis there is no sin-

gle element, neither air, diet, vaccines, nor drugs, which affords any guarantee of success in the cure but, that it is required to satisfy all the physiological and hygenic demands of the organism. The physician must devote himself to the task with unceasing patience, and strive with iron determination towards the goal. In no disease does the physician's personality and tact, as well as the intelligence of the patient have a greater bearing on the favorable outcome, and in no disease is the saying of Alexander Pope:

"Be not the first by whom the new is tried
Nor yet the last to lay the old aside",

more truly applicable than in the Therapy of Pulmonary Tuberculosis.

DISCUSSION ON PAPERS ON TUBERCULOSIS.

Dr. E. C. Thrash, Atlanta: Such a broad phase of this question of tuberculosis has been presented to us by the readers of the papers that it is almost impossible to treat the question with any degree of completeness. With regard to the treatment of pulmonary tuberculosis by artificial pneumothorax, I have not yet made up my mind that this is the proper thing to do and I have, I think, good reasons for thinking so. They are the following:

First. Any tissue placed completely at rest will undergo atrophy. There is no law in the science of physiology so well known as this. Any cell structure so placed at rest, restricting the degree of activity, cannot make a marked resistance against infection by bacteria. There must be some protection of the cell against the invasion by bacteria; from a physiological standpoint the cells that were strongest will be able to protect themselves against bacterial invasion. If the tissues become atrophied because of complete rest, they waste and are not able to resist this invasion of bacteria. This is one reason why I have never introduced gas into the lungs in the manner described by Dr. Harris.

Second. I think this procedure is an exceedingly dangerous one. I have given this subject a very careful study and I think that I well understand the pathological processes that occur in tuberculosis of the lungs. The most dangerous type of tuberculosis of the lungs exists when the physical signs are almost entirely negative. Take, for instance, a patient with marked dullness, increased respiratory murmurs, vesico-bronchial breathing, etc., all brought about by some exudative process taking place in the lung structure; this is Nature's effort at repair. In Nature's effort at repair she is putting the lung in a resisting condition against the invasion of bacteria. This, however, is not done by placing the lung at complete rest.

Again there are patients in whom we do not get many physical signs, but where the sputum is overwhelmed with the tubercle bacilli. These patients run a high temperature. This is a dangerous type of the disease and one that is rarely arrested. Here there is an ulcerative tuberculosis, no exudative material is thrown out, and Nature makes no effort at repair. If you place this side of the chest at rest in the manner described, it will badly effect the other side. The patient will go rapidly from bad to worse; much harm will be done. We do get good results from the institution of this method in but a few cases.

Again we have the psychic influence which is more or less important in treating these patients.

This method of treating pulmonary tuberculosis has been tried in Europe ten or fifteen years ago and it has been abandoned. Dr. Murphy, of Chicago, has abandoned it after giving it a fair trial. It is not being used except by a very few men. The results obtained show that it should not be generally adopted.

Dr. S. T. Harris, Valdosta: I have been teaching and studying the pathology of pulmonary tuberculosis for about twenty (20) years, but what I know of it is in a gross way.

As regards this matter of treating pulmonary tuberculosis by producing an artifical pneumothorax I wish to say that it appeals to me and from the standpoint of common sense. The continuing of outdoor life, proper nourishment, etc., should by no means be forgotten. As a direct remedial agent I think we have in this method the best that we have ever had.

The point of Dr. Thrash that when the cells are diseased they should be worked to their highest point is in direct contraindication of the accepted views of our

best pathologists and clinicians the world over. One of the most fundamental things in medicine, one of most thoroughly established facts, is that rest instituted as early as possible is perhaps the most valuable therapeutic agent we possess.

Let us reason in a similar way: If a man had a broken bone in his leg, should he be made to walk? When a heart is affected and there are murmurs showing failing valvular conditions, should we make such a patient walk up and down the street as much as possible, thus overworking the heart? **Rest to Diseased Organs is called for, and not Exercise.** This I do not believe to be a matter for discussion at all. The fact that there is some danger in the employment of this method the records show. The treatment must be employed with great care.

Rcently I have devised an instrument which enables me to determine when I have entered the pleural cavity. By means of it one can arrive at a definite knowledge regarding this in probably every instance.

Taking up the matter of the practical results of the induction of pneumothorax, there is no question but that the clinical histories taken of these cases show a wonderful improvement in the patients' conditions in every instance in which this operation was performed. Patients are being treated successfully all over the country. In many of the sanataria patients are being treated but unsuccessfully; they are not all benefited. I can recall one patient that was brought to Atlanta and her condition was supposed to be hopeless; in fact her case was abandoned. After taking this treatment she improved and today is practically well. We should not allow theoretical considerations to interfere with our practical results; we should take note of what has been done by workers in tuberculosis. We should fully appreciate that the results of this treatment have been most wonderful and remarkable in every way.

I take issue with the statement that Dr. Murphy, of Chicago, has abandoned this treatment; this is not true. He has been using this treatment for a long time. There is no doubt in my mind, in fact it is unquestionable, that the results obtained by our best workers in this field have shown that, in many instances lives have been saved by this method of treatment that without it undoubtedly would have died; the treatment too was employed when all other measures failed.

With regard to tuberculine. I think it should be used with the utmost caution, and never when the patient has any temperature.

Dr. Dallas Williams, Folkston: I am reminded of a discussion on tuberculosis that occurred probably four or five years ago; at this meeting I reported cases that were treated and cured by the use of creosote. One of these patients was a man fifty (50) years old and he had had several very severe hemorrhages. He was placed on cresote, given in capsules; if it is used in solution it is very likely to produce nausea. If this agent is given in capsules it will not disturb the patient at all. This patient took twenty-five (25) drops of creosote three times a day. Today he is living and well.

Another case I would like to relate. It was that of a young lady with tuberculosis and she was practically raised on creosote. Today she is practically well.

I have under observation another case of a young man, very much reduced in flesh, with cough, etc. Under the influence of the cresote he improved very much. In many cases of tuberculosis I believe that creosote is the remedy **par excellence.**

Dr. E. C. Cartledge, Atlanta: We have heard so much about the treatment of pulmonary tuberculosis by artificial pneumothorax that we all feel at though we wanted to try it. Most of us, however, would be glad to try this method of treatment if it was simplified. I should like to ask Dr. Harris if ordinary air, with the oxygen and nitrogen in the proper proportion, would not answer the same purpose. Is it necessary to insert 200 3100 c.c. of nitrogen? Would not the ordinary pressure of 15 pounds to the square inch be sufficient? I wish Dr. Harris would tell us of some way in which we might simplify this treatment and make it more practical.

Dr. S. T. Harris, Valdosta: I must say that in this treatment I am only a tyro myself; in fact, I have only had five cases, and I do not know by any means all about it. But I certainly hope to know much more about it. When it comes to the question of theory and fact, I prefer to take the side of fact. So far as the

theory of exercise being beneficial in diseased conditions, as brought up by Dr. Thrash, I think we all have our own individual opinions. Many interesting facts have been brought forth at autopsies regarding pressure in instances of tuberculous lungs. It has been shown that after compression the alveoli of the lung not diseased will resume function. It is supposed that there is more or less a hyperaemic process present.

So far as the danger of the treatment by artificial pneumothrax is concerned I think this is a negligible quantity and should not be considered so seriously. However, in advanced cases, there may be some danger.

With regard to the opposite lung being injured because of the institution of this method of treatment in the cases when both lungs were involved in the tuberculous process, it has been shown that by the production of the artificial pneumothorax the opposite lung has been really benefited.

With regard to the psychic effect, this is something I know very little about when there is a real tuberculous condition present.

The initial operation can be done very easily by the attending physician; but it should be done by a man who understands the matter because of the slight danger attached to this operation.

With regard to air being used in place of nitrogen, in the first three operations I used sterilized air but the operations were not successful therefore I used nitrogen. The proportion of oxygen in air is about 20 per cent. (20%); the proportion of nitrogen is about eighty (80%) per cent. The oxygen is absorbed so rapidly that it is not a good agent for this purpose; there is not a sufficiently long fixation of the lung in these cases. Nitrogen is a gas that is not absorbed so rapidly and, therefore, is to be preferred.

Dr. L. C. Roughlin, Atlanta: Any patient who talks to me about some cure I look upon it as being ridiculous. Tuberculosis of the lungs is a disease in which there is no one single factor that is curable absolutely. This disease is self-limited and self-curable. We must use systematic remedies and get at the bottom of the trouble. I have had no experience with the production of artificial pneumothorax in the treatment of these cases. I have seen some cases that have been so treated; there have been good results from it, and there have been bad results as well. We should take everything into consideration and what should be used above everything else is common sense.

Dr. J. M. Anderson, Pinedale: Self-preservation is the first law of nature. Any man who has had tuberculosis and has cured himself should know much more about the disease than one who is not tuberculous. The men who have done the most in the study of this disease have been afflicted with the disease. If Dr. Trudeau ever used artificial pneumothorax in the treatment of pulmonary tuberculosis, I do not know it.

I have two very good friends, both tuberculous, and I have been in communication with them. They state that tuberculine is not used at Dr. Trudeau's place except in the way suggested in one of the papers. It is used only when other methods have failed.

A PLEA FOR THE ISOLATION OF THE CRIMINAL INSANE.

W. A. Ellison, M.D., Milledgeville.

By long continued and careful study and research of the types, which I might call the common insane and criminal insane, I want to present you statistics, and facts to show the detrimental influences, which the criminal insane have upon the common types, and urge your support of a plan to isolate, colonize and maintain a separate institution for the care and treatment of the criminal type. The state has ample ground for the erection of such an institution or colonies, at the State Farm, at Milledgeville, Ga.

It has been my opportunity for the past several years to make a study of criminals of all grades ranging from those charged with petty misdemeanors to those that have been found guilty of the most atrocious crimes of murder and it is my observation that the natural instinct of the criminal is to exercise a malicious or criminal influence over his fellow associates, creating distrubances, demoralizing the order of things, and inciting if possible an insurrection.

A crimnal with a diseased mind is a demoralizing agent, thoroughly destructive in his methods, tearing down what we are

trying to to build up. And when this type is intermingled with the common type they exercise their influence over their associates, interfering with our methods, creating disturbances amongst them, and I might saw worst of all hindering a favorable prognosis. They interfere, I dare say with a large per cent of recoveries in patients who if left alone and taken away from this demoralizing influence would make rapid strides towards recovery, or remain in a condition of easy control and management.

So much for the demoralizing influence, and now for a few words upon the possible lessening of the plea of insanity in the criminal courts of Georgia. In these next few words don't mistake me as censuring the courts of Georgia, or implying that they err in their judgment of a man's sanity or insanity, to a great degree. But you know as well as I that the opinions of medical experts are far apart from each other. And right here I might make a plea for a better court of commitment, for eliminating the ten days notice, and for the treatment of one of diseased mind more as a sick man than as a criminal to be shunned, thrown in prison and held for trial by a jury the majority of whom are laymen; knowing no more about the diseased mind than they do of the diseased body. If you all will pardon me from erring I will now get back to the right track.

The first possible impulse of the criminal when he sees conviction staring him in the face is to feign insanity and put such a plea into the courts. Whereby he may possibly be sent to the State Sanitarium, enjoying the hospitality of the State, doing nothing and exerting his criminal influence over those about him, instead perhaps of serving a just sentence in the prison. The average criminal does not care about being locked up as a crazy man. But even as a criminal he abhors the idea of being confined in a prison or criminal institution.

The shameless exhibition of insanity pushed as a mode of defending crime to be followed soon after by the indignant efforts of the accused to be adjudged sane, so soon as his insanity plea fulfills its mission, should make us more cautious, and the erection of such colonies for the criminal in my opinion would lessen such pleas upon the side of the criminal.

I think the function of the jury is to determine whether there is a crime committed, then the individual subjected to such observations as to determine what manner of man he is, and placed in such institutions as the state provides. If criminally insane then let him be put in the institution for the criminal insane where no further depredations on society can take place. If he can be cured; cure him. If not let him serve his penal sentence in the criminal institution set aside for this class.

In regard to the study of criminology as associated with instanity we may divide it into two classes; insanity as a actuating factor in the production of crime; crime as a actuating factor in the production of insanity. Under the first head I might call your attention to crime as a product prompted by a delusion of persecution, or an illusion, or an hallucination. The individual is brought to a high tension of fear and his crime is a mode of defence from imaginary foes, as in the Thaw case. And again it may be the production of an imbecile order of intelligence, whereby the individual knows no difference of right or wrong, therefore crimes from petty larceny to murder are committed with no sense of shame or realization of crime. And again I point out to you crimes actuated by the perverted sexual psychopathias such as sadism, In these the individual under the excitement of his perversion, recognizing no moral or civil rights of society, satisfies his perverted sexual passion upon some innocent being. Soon after he awakens to himself in amazement at the magnitude of his crime, only to repeat it later.

Under this same head I call your attention to the recurrent manias of the genius type. I recall such a case as I write, where the individual recognizes his condition as that of an insane man, studies out some crime or mode of revenge upon some enemy, only to shield his crime behind the cloak of insanity.

Under the head of crime as a causative factor in the production of insanity, I call your attention to the banker who has been stealing the peoples' money and suddenly awakens to his crime, seeing ruin, degradation, starvation, or perhaps the penitentiary staring him in the face; may suddenly be bereft of his reason, and while suffering under this mental abberation,

crimes maybe committed, even murder or self destruction.

Gentlemen, my idea of such an institution or colony is to isolate it from the present institution for the insane with its own superintendent and corps of assistants, to place it under the direct management of a separate board of trustees, or directly under the management of the Prison Commission. There must be sufficient land for the able bodied to be put to work, to develop their bodies and if possible their minds, and divert them from criminal channels, and to my mind to remove an obstacle detrimental to the other type.

I make this plea in behalf of those poor unfortunate beings bereft of their reason, formerly of a high bred, refined people, incarcerated, shut off from the world and reason, that they may have more refined surroundings, and that every obstacle be removed from their path of recovery, that they may come back into the world as citizens bearing no stigma of criminal association. You would not like to be thrown in contact with a malicious individual, exerting his malicious will over you, and probably shutting you off forever from a return of your mind. The insane mind is peculiarly susceptible to such influence. As physicians we should come together and urge upon the state the isolation of this class. There are already a number of states with their institutions for the criminal insane. They have long ago recognized the necessity of separating this class, and the trial has proven successful.

Among the many hundreds of patients now confined in the Georgia State Sanitarium there is a great number who are high bred and of a delicate nervous temperament, and the State should not force them to be confined or to intermingle with those of the criminal type.

DISCUSSION ON DR. ELLISON'S PAPER.

Dr. R. I. Daly, Atlanta: I have had two and a half years' experience in the Matteawan Hospital, New York. There is something peculiar about the criminal insane which differs from what is found in an ordinary individual; this manifests itself in their power of combining. In the Utica State Hospital I had no concern regarding bodily fear; I did not care there how much a patient might rave so far as personal harm was concerned. At Matteawan, as a rule, the doctors had an attendant who had nothing to do but to stand behind. The fear of personal harm in these institutions I think interferes very much with the work of the doctor. It interferes very much with the work of the doctor on some delicate man who is not criminally insane. At the same time these patients will combine. Take a man, for instance, who has been sent to prison for from five to ten years; he is sent to an asylum and he is treated as are the other inmates. He is thrown into association with all kinds of insanities. He thinks that he is a menace to all the other persons there. In these asylums there should be a man who was an expert in this particular line and proper protection should be afforded these cases, those patients who are not criminally insane. We should go back to the courts. There should not be such nonsense as is shown by the interference of the judges in these cases.

Dr. W. A. Ellison, Milledgeville, (closing the discussion: Physicians should be given an opportunity to examine these patients to determine the character of their insanity; the proper treatment of these cases should not be interfered with. The physicians should be on guard at all times when they are brought in contact with these patients, but they should not be in great fear of any personal injury from them.

A REVIEW OR FIFTY-SEVEN CONSECUTIVE OPERATIONS FOR FIBROID TUMORS OF THE UTERUS.

Edward G. Jones, M.D., Atlanta.

The operations analyzed represent all my individual work. They are consecutive; every patient presenting herself was operated upon.

The List Comprises.

Abdominal hysterectomies	51
Abdominal myomectomies	2
Vaginal myomectomies	3
*Celiotomy without removal of tumor	1
Total	57

*Evident sarcomatous degeneration with involvement of meseuteric glands.

PRIOR SYMPTOMS.

First—Pelvic Pain.

40 Complained of such pain.
6 Did not so complain.
4 Had pain irregularly.
7 No record made.

Unless there were complications such as pyosalpinx, adhesions, etc., the pain was usually more of a pelvic discomfort than a positive pain. Of the six patients who did not complain of pain:

One had a moderately large subperitoneal and three or four small interstitial tumors; two had protruding polypi only; one had a single large subperitoneal myoma; one had only small interstitial tumors; the remaining history gives no information as to kind of tumor, but the presumption is in favor of sub-serous growths as there was no irregular or profuse menstruation.

Second Hemorrhage.

No records	8 patients
Irregular and profuse	19 patients
Neither irregular nor profuse	15 patients
Irregular	7 patients
Profuse	8 patients

Of the fifteen women who did not complain of hemorrhage numbers 1, 5, 8, 15, 21, 41, 47, 51 57—10 in all—had either single subserous tumors, or one or two, more or less large subserous tumors and small interstitial growths; the remaining five were uncomplicated cases, though no record was made as to the location of the tumors.

Third, Leucorrhoea.

No record	8 patients
Marked leucorrhoea	33 patients
Slight leucorrhoea	4 patients
No leucorrhoea	12 patients

It may be noted that, with two exceptions, (Nos. 4 and 37), the twelve women who had not marked leucorrhoea were the same women who had no profuse or irregular hemorrhage; and in case of the two exceptions the hemorrhage is recorded as profuse but not irregular—which may have been normal for these women.

Fourth, Vesical Irritation.

No record	8 patients
Troublesome irritability	33 patients
No irritability	16 patients

Fifth, Abortions and Miscarriages.

I have data as to the bearing of children by 39 of these women. Three of the 39 were unmarried and had no children. The remaining 36 have borne a total of 60 children with a total of 50 abortions or miscarriages.† Thirteen of the 36 have never been pregnant to their knowledge, their ages at the time of operation being 34, 26, 40, 34, 44, 35, 45, 26, 24, 36, 30, 45, 36. These thirteen, with two exceptions, had profuse or irregular hemorrhage; and the two exceptions probably had submucous tumors.

Four have aborted or miscarried oftener than they have gone to term; all four of these had marked metrorrhagia.

Nine have borne two or more children with no miscarriages or with relatively few miscarriages. Of these nine, Nos. 2, 8, 36 and 55 had the tumor appear some years after the last child was born; in case of Nos. 37 and 55, the tumor is recorded as being intraligamentary; No. 39 was 43, No. 20, was 48; No. 55, was 41, and No. 54, was 39 years old, so that presumably they bore the children before the tumor began to grow; in No. 33, age 32, no explanation appears.

II. POSTOPERATIVE HISTORY.

First. To the question "Is the general health satisfactorily improved since the operation?" the answer is:

Yes, for all patients reporting, (49).

Second. Is there a hernia in the wound?

Information is at hand respecting all but seven patients. No hernia has developed in any instance.

Third. At any time since the operation has there been a bloody vaginal discharge, and if so how many separate times has this happened?

There is no information from nine patients. Of the remaining 44 upon whom hystero-myomectomy was done (omitting myomectomies, etc.) a bloody discharge simulating menstruation is reported.

Few times by	1 patient
Once by	3 patients
Three times by	1 patient
Twice by	3 patients
Four times by	1 patient
None by	35 patients

Fourth. Does the patient suffer from troublesome leucorrhoea which was not present before operation?

No information is at hand from eight patients. From the others a negative answer has been received except as follows: In three patients (Nos. 10, 43, and 55) the

leucorrhoea continues about as before operation, and in two (Nos. 42 and 53) leucorrhoea is still present but less troublesome than before.

Fifth. Does the patient suffer with bladder irritation now?

There is no information respecting seven patients.

Nine complain of slight—none of severe, irritability With a single exception (No. 27), these same nine patients complained of vesical symptoms before operation. The remaining women report no trouble.

Sixth. (1) Does this patient now, or did she for a while, suffer from natural menstrual discomforts monthly without actually menstruating?

(2) Did the nervous and circulatory disturbances of the menopause follow the operation, and if so

a. How soon after the operation did they begin to appear?
b. How long did they last?
c. Were they more severe or less severe than the symptoms of the natural menapause?

I have been very anxious to get just as accurate information as possible upon the question of the effect on the general health and on the menstrual function in these operations of leaving both ovaries or one ovary.

I do not discuss here the **advantages** of leaving good ovaries or the advantages of removing bad ovaries. In this series of cases one or both ovaries have usually been left if their condition seemed to warrant it, though very frequently their condition indicated that removal was wiser and it was done. Operators of experience almost universally note the presence of pathologic ovaries with uterine fibroids, so that their ablation is perhaps wise in the majority of instances. The younger a woman the more careful I have been to leave one good ovary if possible.

Of course, usually, probably always, unless some **corporeal endometrium** be left by a rather high amputation the actual flow of blood at the menstrual period will be stopped promptly, as previously noted in this review, whether the ovaries be left or not; but whether the other menstrual phenomena persist through the natural menstrual life when one or both ovaries are left is affirmed by some and denied by others—presuming the ovary or ovaries to be fairly normal.

The truth appears to be that too little reliable study has been given to the subject in question, the profession taking largely for granted what is probably true, viz.: that the preservation of good ovaries **does** postpone the disturbances of the menopause.

My efforts to get the truth with regard to the questions from the patients here discussed have been somewhat disappointing up to date. It has been the subject of correspondence for more than five months with the result that the information obtained is not of strict scientific value. With doctors, as well as with patients, the post-operative amenorrhoea is too frequently confused and made symonomous with the actual menopause. I can only say at present that the information at hand respecting this series of patients seems to support the theory that retention of one or both ovaries will avert or postpone the artificial menopause.

Such information as I have received also indicates that when the menopause is brought on artificially by removing both ovaries the symptoms experienced are less severe than with the natural menopause.

Three patients apparently passed the menopause before operation, though two of them still had hemorrhage.

One of the two upon whom abdominal myomectomy was performed (the other having reached the menopause before operation) was 36 years old at the time. Three years afterward—rather early—she began to experience the symptoms common to the climacteric.

Nos. 54, 55, 56, 57, from whom both ovaries were removed and 53 in whom a part of one ovary was left were operated on too recently for information to be valuable.

Seventh. Has any serious mental disturbance developed?

No patient has shown such symptoms.

Eighth. Is there pain which may be due to abdominal adhesions?

No information received from eleven.

No. 5 operated on aet, 36, four years ago is thought by her husband who is a physician to have chronic appendicitis. She is passing the menapause now. No. 10 complains of vague pains in the left iliac region. Nos. 12, 26 and 43 answered yes to the question; these were all clean cases and no explanation is offered. A number of other patients whom I would

expect, rather than the above, to have such pain because of adhesions, pelvic peritonitis, etc., evident and troublesome at operation, seem surprisingly clear of it.

Ninth. Is there any unfavorable symptom not present before operation?

There is no report of 12 patients and three were operated on too recently for their answers to be valuable. No. 4, operated on in 1907 has some swelling in left leg when standing—a relic of a post-operative phlebitis.

One patient died about a year after operation (previously mentioned.)

I omit purposely a discussion of technic except to say that experience has led me to be more and more careful to suspend the cervical stump (if left) by the round ligaments or by the gathered peritoneum of the broad ligament—a few patients complaining of bearing down sensations when no specific attention has been given this point.

Bisection has been practiced in some instnces—when it seemed to promise better protection to the ureters, or when the tumor could not be delivered without difficulty or danger of inaccessible hemorrhage.

Supravaginal amputation has been the usual procedure, the increased mortality of complete hysterectomy more than outweighing the immunity from cervical cancer acquired by the more radical operation.

In the recent cases the blood pressure has been taken at frequent intervals during anesthesia and operation. Omitting temporary variations, there has been in general a gradual decline during the actual intra-abdominal operation, though in no observed instance had the pressure fallen to the point of shock.

With few exceptions the gall bladder has been examined by palpation in all these operations. In no case have gall stones been discovered—a finding not in accord with the common teaching of internists, especially since cholelithiasis is a woman's disease and these fifty-seven women averaged middle age. (Extend observation to other women.)

Complications.

The following operative complications are noted:

Extensive adhesions	11 cases
Moderate adhesions	17 cases
Large proliferating ovarian cyst	2 cases
Intraligametary fibroids	7 cases
Bilateral intraligamentary cyst	1 case
Ureter over tumor	1 case
Dermoid cyst	1 case
Single intraligamentary cyst	1 case
Sloughing tumor	1 case
Appendix involved	11 cases
Cystic degeneration	1 case
Pregnancy, (six weeks)	1 case
Phosalpinx	2 cases
Umbilical hernia (repaired)	3 cases
Hyperthyroidism (Ex. goiter)	1 case
Extreme obesity	2 cases

The mortality in this series of cases is not such as, of itself, to claim favorable comment—four patients having died—though it is perhaps not above that in the ordinary run of complicated and uncomplicated cases. There has been one death in the last 37 operations.

Number 9, aet. 44, died 60 hours after operation from paralytic ileus. This patient should not have been operated on in her then condition. At present I would do a preliminary blood transfusion. She had known she had the tumor for fourteen years; during most of this time hemorrhage had been prominent and for the last three years very profuse so that she was practically exsanguinated. Her pulse was 120 almost continuously after she came under my observation and the hemorrhage continued. The tumor was large and sloughing. It was removed quickly, but she did not rally, dying 48 hours after operation.

Number 14, aet., 32, had a number of fibroids matted together with abdominal viscera. The operation was concluded in a comparatively short time with little evidence of shock, but with considerable trauma by reason of the adhesions. The patient died suddenly 30 hours after operation with characteristic symptoms of pulmonary embolism.

Number 20, aet. 48, was known to have albuminuria before operation. Continued hemorrhage demanded interference, and the patient died with the usual symptoms of urinary suppression.

Number 39, aet. 43, had a tedious operation on account of extensive and dangerous adhesions. Thirty-six hours after operation she was seized suddenly with tachycardia. Hemorrhage was positively excluded by a number of symptoms at the

time and by the subsequent history. Her condition remained critical for three or four days. At the end of five days she seemed out of danger. On the eighth day the wound was carefully examined with the view of discovering infection. It was perfectly clean; the same afternoon she coughed, the wound opened and the intestines were somewhat soiled. No pus appeared. The tachycardia appeared again, and the patient died in 30 hours without any characteristic evidence of peritonitis. I did not personally see this patient after the third post-operative day, being away from the city. She had no gross cardiac lesion, though an undiscovered myocarditis may have explained her symptoms.

DISCUSSION ON DR. JONES' PAPER.

Dr. S. T. Barnett, Atlanta: I should like to ask Dr. Jones whether in making his amputation the cervix was included in the hysterectomy. In two cases that I was unfortunate enough to lose I believe the accident was due to the fact that the blood was impoverished; the hemoglobin percentage was so low that the women had no chance to survive the operation; they should have had an opportunity to have had their hemoglobin percentage brought up. In one of these cases, however, I was called upon to operate at once; this case was handed to me by another physician. I found after the operation that the percentage of hemoglobin was below forty per cent. (40%) and that the red cells were far below three (3,000,000) millions. It seems to me that the impoverished condition of the blood should always be taken into account; when the blood is impoverished, when there is a low hemoglobin percentage, etc., then it is the wrong time to operate.

Dr. J. L. Campbell, Atlanta: Dr. Jones mentioned one point in regard to the technique of the operation which I consider to be very important, the care of the ureters. I have performed several of these operations and the care of the ureers is one of the great dangers that presented itself to me in the removal of these tumors, either by cutting or tying them. I have found in the last year or eighteen months that the giving of methylene blue twenty-four hours prior to the operation will stain the ureters a deep blue. Since employing this I have never yet cut or tied the ureters. When we get in the neighborhood of the ureters after employing the methylene blue, this agent will show through and enable one to stear clear of these vessels. This is not an original method with me. The use of this agent is particularly of value when operating upon intraligamentous tumors where the tumor is between the broad ligament and the ureter.

I have had the pleasure of seeing Dr. Jones perform many of these operations. I have enjoyed his paper very much; his paper I consider to be of great value from a statistical standpoint because he has taken such care in gathering up his statistics. The patients on whom I have operated for the removal of diseased ovaries have experienced considerable trouble after their periods. One young lady said that she had considerable discomfort; that after the so-called "phantom-period" she felt, however, very well. I believe in leaving all the ovarian substance possible; unless the ovaries are considerably diseased I do not believe that any man is justified in removing them.

Dr. Floyd W. McRae, Atlanta: I wish to congratulate Dr. Jones on the admirable manner in which he has presented his paper. I think the ureters are a bugbear; there is no danger to them if one hugs close to the tumor he is removing. A careful surgeon never cuts or ties an ureter. Even if he did cut it and recognized it, he should be able to care for it; its severance should be no barrier to the result of the operation.

I am particularly interested in the very careful manner in which Dr. Jones has followed up the histories of his cases and the clear and forcible way he has presented his facts. We do not want to know that the patient survived the operation, but we do want to know the condition three, four and five years after the operation. **Get the Results.** Papers like Dr. Jones has given us, show a real and living helpfulness in the work undertaken.

A point I wish to particularly emphasize is that we should leave as much of the ovarian tissue as is possible; I know of no class of individuals that have more distressing symptoms, that feel so utterly hopeless, than the young woman upon

whom a complete ovariectomy has been performed on both sides. I am very glad this particular point has been brought out in the discussion.

Dr. E. G. Jones, Atlanta, (closing the discussion): With regard to supravaginal amputation I stated in my paper that this had been the operation of choice. I do not think that the mere fact that a woman has a cervix calls for its removal in these cases; this procedure undoubtedly adds to the mortality. The cervix may be the seat of a number of ulcerations; in such a case it might be best to remove it with the uterus. But as a rule supra-vaginal hysterectomy is the operation that has been preferred and practiced.

Whenever these fibriods are uncovered I personally want to know the relationship between them and the ureters; I have a great respect for the ureters and I exercise great care in my dealings with these tumors.

In dealing with these ovaries as much of them should be left as is possible; but, as a matter of fact, one or both ovaries suffer from a surgical lesion and if left it would display bad surgery on the part of the operator.

THE BUSINESS AFFAIRS OF THE PHYSICIAN.

L. C. Allen, M.D., Hoschton.

It is now about the time of year when the country practitioner, at least in the South, begins to collect the pay for his year's work. A few remarks concerning financial affairs, therefore, would seem to be not inappropriate just at this time.

The business of the physician cannot now be carried on as it once was carried on. Times have changed. A long time ago physicians never made any charges for their services, but left it entirely with their clients to make such remuneration as they saw fit to do. Hence, in those days the fee was called an honorarium, or sostrum. This plan was not without its advantages. It was certainly dignified, and it often happened that a very rich client would pay a very large honorarium —much larger, indeed, than the doctor would have named. On the other hand, the poorest peasant felt ashamed to allow the good doctor to go away without making some contribution, if only a chicken or a pair of hose. It was felt to be a disgrace not to honor him with something for his kindness and valuable services.

But today we live under vastly different conditions. With our railroad trains, our electric cars, our automobiles, telephones in every home, the telegraph in every town, and flying machines in the air; with a bank in every village, and a schoolhouse on every hill; books, magazines and newspapers in every home; a doctor at every cross-roads, and a superfluity of them in every town—we find ourselves amid a wonderful civilization, and with perplexing problems growing on every hand. The doctor has to serve all the people that make up this bewildering civilization He often finds at the same time a rich man in his magnificent automobile at his front gate, and a begging nigger at his back door. All sorts and conditions of people need the doctor—the rich and the poor, the young and the old, the clean and the unwashed, the honest man and the rascal, the prompt-payer, and the dead-beat. The doctor goes alike to the mansion of the millionaire, and to the foul alley shack of the pauper; to the landlord's palatial home on the big road, and to the hut of the tenant behind the cow lot, or over in the field beyond the creek.

Now under such conditions as we find ourselves there can be no such thing as treating everybody alike. You will certainly fail of business success if you try it. Talk of dignity and philanthropy and charity and humanity as much as you please, but the cold, hard fact remains that you cannot succeed with the professional dead-beat, the shiftless negro, the irresponsible and wandering factory, had when using the same methods that you employ with the honest, thrifty farmer, or the reliable business man. The rascal knows he is a rascal, and does not resent being treated as such, provided you do it in a tactful way, while the honest man is often very sensitive.

Doctors must learn to adopt business methods in their business if they would succeed financially. This age is a business age. In our time the old adage is true—"Money makes the mare go." And it makes the doctor go, too. In this business age, the minister—the preacher of the gospel of Jesus, no longer depends upon an

uncertain "honorarium" for his livelihood. No, sir. Your preacher must know what his salary is going to be before he accepts the pastorate of a church. "Salary" is the word they use now. And if you belong to a church you know well enough that you cannot in this day, secure the services of an able preacher if your salary is meagre.

You often hear people say that physicians should be more business-like; that they should adopt business methods. But this is vague. What **are** the methods of business men that physicians should adopt? Let us look at the question and see what we find. Let us use our common sense a little, and we will find the answer to be very simple. In the first place the business man does not credit every man that comes along, and asks for credit. If the business men—the merchants—of your town were as careless about extending credit to everybody that comes along and asks for credit as is the average physician there would not be any merchandise left in their stores at the end of a month, and all they would have to show for them would be a lot of worthless accounts. Anybody can give away merchandise or other property. Any doctor can give away his services. There are plenty of people on the look-out for just that kind of doctor. A doctor who gives away his services to everybody is often very popular. But what good, may I ask, does the popularity do him? He is out valuable time, his medicines, the wear and tear of his horse and buggy, or auto, and he loses good business while he is wasting his time with those who will not pay ham. He loses sleep, exposes his health in bad weather, and often breaks down his constitution in early life. He exposes himself to contagious diseases, and often contracts a fatal malady while serving his patients. Men in no other profession do such things for nothing. I discovered long ago that my time was worth more to me in my study at home than it was in riding around over the country serving deadbeats.

Another well-established custom among business men is to require security of all persons whose standing is not known to be good among business men is to require security of all persons whose standing is not known to be good. Can a physician violate this business custom, and not suffer from it? Can a doctor extend credit for professional services and sick-room supplies to Tom, Dick, and Harry and expect to make anything by so doing? He may gain a little cheap notoriety among the class of people who never pay their debts, that's all.

Another well-established custom among business men, doctors excepted, is to make collections promptly. If there is any one thing that all successful business firms attend to promptly, and invariably, it is this. It is absolutely essential to their success that they do so. If a business concern fails to collect its outstanding debts they go to the wall, and the sheriff locks the door. If you owe your banker, your grocer, your instrument house, or your drug house, neither of these wait for you to pay "any old time" when you get ready, but he invariably gets after you promptly at the end of 30 days, or 60 days, or whenever the account is due, sending notice usually several days before it is due, and if you do not pay promptly he draws on you through your bank, and if that fails he will adopt more drastic measures, and your credit suffers. Laborers who work in factories, in the mines, on farms, demand their pay at the end of each week, or month. Your hired man, and even your cook has to be paid promptly or they will go on a strike. I don't blame them. But what can be said for the man who allows everybody else to **collect** from **him** every cent he owes, but who allows all that owe him to **pay** when they get ready, no matter when that is? Who is the man that does that? I know of but one answer—the doctor. Is that good business? People should be educated to pay their doctor as promptly as they pay others. A physician is entitled to the same treatment as other reputable business men—no more nor less. He should have manhood enough to insist upon his rights. Many a good old doctor has worked hard for years among the people—losing many a night's sleep, worrying over many a bad case, riding often through rain and cold, and all the time with not enough money to pay for a horse should his accidently die, and unable to afford to buy a new instrument needed in his practice. You cannot do good work unless you collect your bills. Your patrons should be made to understand this. To do the best work, you must keep well-

supplied with up-to-date books, journals, and instruments, and, if you are a village or country doctor, with good medicines, and sick-room supplies. You must have a good team or an automobile, often both. All this costs money. In addition, you have to pay family expenses like other people; you have to pay your blacksmith, your grocer, your preacher to educate your children, and pay your taxes. And you ought to lay up something for old age.

It is the doctor's duty to impress upon his clients the importance of paying their bills promptly. Statements should be sent promptly at the customary time. There is no sense in waiting until everybody else has been paid until you demand your pay. It is a mistaken idea, for a physician to think he will gain friends and prestige by delaying the presentation of bills. In fact the very contrary is true. Some slow men may not like it much at first, if they have been accustomed to deal with doctors whose business methods are slack, but when they come to understand that it is your way, and that you give good service, and expect always to be paid promptly, they will soon come to respect you for it, and will recommend you to their friends as the best doctor in town. Don't think that you cannot adopt prompt methods of collecting your bills because other physicians in your town do not do so. This is a mistake. People will usually value your services according to the value that you yourself place upon them. When they see a doctor means business they learn to appreciate him. Make your bills reasonable, neither too high nor too low, insist on prompt payments, and thereby raise the value of your services. Let others do as they may. Refuse to serve dead-beats and no-goods unless they pay cash, or give security. Employ business methods, and make the impression that business methods are an essential part of a good physician. This is really the truth. The more closely you collect your accounts, the better service you are enabled to give. You keep better posted, better equipped, better office facilities, will be able to take post-graduate work, and your services will really be worth a great deal more to your patrons. The physician who allows dead-beats and no-goods to consume his time is making a fatal mistake. Your time is valuable. Furthermore, it is undoubtedly true that the more promptly you collect your bills the longer you will retain your patrons. Some man may not like it too well, at the time, because you call on him for your pay, but if some of his family get sick, he will remember that he owes you nothing, and that you can have no excuse for not coming if he sends for you, and he will send for you, without hesitation, and unembarrassed. While a man who owes you a neglected bill will send for your competitors, one after another, as long as he can find one whom he does not owe. It does not pay to try to keep as customers those who will not pay you. You do not want such practice. You lose valuable time with them, and it is no compliment to any physician to be called in because the caller has completely exhausted his credit elsewhere. Many people do not pay a physician, not because they are unable to do so, but because they have found by experience that it is not necessary to do so. They can always find some easy-going doctor, or some young physician upon whom they can impose, and get their practice done for nothing. The physician who makes these dead-beats pay him, or go elsewhere, may not seem to be doing a large practice, but he will make more money than the man who goes to all of them, and who seems to be doing a large and lucrative practice, and in five years the business-like doctor will actually be doing the most practice, and what is more important, it will all be among good paying patrons. I do not feel that I am sinning because I refuse to work for those who I know will not pay me. As some one expressed it, "I am only declining to be defrauded."

But as I said at the outset, you cannot treat everybody alike. There are often peculiar circumstances that we cannot disregard. We all have to do a certain amount of charity practice. It is not the charity work of which I complain. There is no class of work that you should do more gladly than that which is done for those poor persons who are really deserving of charity. But you will be unable to give your services, furnish medicines, and other necessities to the worthy poor, if you fool away your time with dead-beats, worthless hard-ups, and thriftless niggers. My idea is that we should draw a sharper line between true charity prac-

tice and dead-beat practice. At present we are entirely too careless in this respect, and too often allow ourselves to be imposed upon.

Every fall keep a look-out for the first bale of cotton that comes to town. As soon as you see a new bale of cotton come into town, with the cheering odor of asphaltum on the ties, you may know that the game has begun, and you should at once prepare to enter into it, with the determination to play your part engetically. Foot up all your accounts and make out all your bills Draw off every customer's name with the amount of his account on a vest-pocket memorandum. Take this with you everywhere you go, so that you will be prepared to collect from your debtors anywhere you chance to meet them. At all times keep your accounts in such shape at the office that you can quickly tell a customer what he owes, should he want to know. This is good business policy. It encourages him to pay promptly. Should you put him off, telling him you "have not run up" his account, or have not time just then, that you will let him know some other time, he will probably get the idea that you are in no hurry about being paid, that you do not need the money, and he may let you wait a long time for it. Whenever a man wants to pay you, never, under any circumstances, be too busy, or in too big a hurry about something else, to receive the money and receipt for same. There are several good reasons for this. If you have a debtor whom you know to be prompt-paying and honest you will do well not to waste any time or postage in sending him statements. He will pay you soon anyway, and he is the very kind of man whose patronage you most want to retain. You necessarily know pretty well nearly every man for whom you work. Some few good men, unfamiliar with business customs, do not like statements sent to them through the mails. They consider them "duns." When you know their peculiarities, you can manage in some other way to collect the account. Some men don't like to get "duns" because they don't want to pay their bills until they get good ready, or don't want to pay at all perhaps. Such men don't like to be bothered. Don't let such people bluff you. Send the statement right on regularly, or what is perhaps better, write an appropriate letter. You don't like to be bothered, either, when you are sound asleep at night, or when you are eating a meal, or trying to get a shave, or take a bath. But some one is always bothering you. You seldom get to church, or if you go, you are called away before the services are over. You work every Sunday, more or less, and you never enjoy a holiday. Some one is eternally bothering you. So I think the old adage applied here: "Time about is fair play." And the Good Book says that "the laborer is worthy of his hire." That certainly means that the doctor deserves his pay. So in trying to get that which is justly yours you are only carrying out the plain teachings of the Bible.

There is another class of men who have been "dunned" by everybody until the duns make no impression on them. Their hides are tough, their consciences seared. If you have any such customers, it is unfortunate, but perhaps a tactful collector might be able to do something for you.

There is another faulty practice, common among doctors, that I should like to mention. If you owe your banker a note when you come to pay it, you do not ask him to "knock off" part of it; neither do you ask your blacksmith, your supply house, or your merchant to take off half of your bill when you go to pay them. They would think very strange if you should make such a request. Yet I know doctors who make a regular practice of "knocking off" a large part of every bill they make. This is bad business. In fact, it is not business at all. Some practicianers make a large charge, anticipating a reduction when the bill is paid. This plan might succeed with some physicians. But, it does not look exactly honest to me. It looks too much as if the doctor were trying to get all the customer would stand. I always charge what I consider my services are worth, and I collect the full charge. It sometimes happens that I do work for some deserving poor man, or widow in bad circumstances, who has had misfortune, and under such circumstances I may make a reduction from my customary charges. But if so I make the reduction when I make the charge, I never make a large fee and then reduce it when it is paid.

It is unwise for a physician to talk with people about his business affairs—his accounts, his collections, the amount of

money he is making. No person with sense likes to hear Dr. Puffhimself tell about how busy he is, how many cases he has on hand, or how wonderfully successful he has been, in saving peoples' lives. The doctor who tells about "getting there just in time" to save a life, may be safely classed as a quack. Dr. Bragg simply disgusts intelligent people by telling about his wonderful operations, his remarkable cures, and his never-failing remedies that all other physicians are ignorant of. Such talk is boorish, and brands the man who indulges in it as an uncultured charlatan.

Some of your enthusiastic friends will bestow upon you extravagant praise. Accept it with becoming modesty. Disregard utterly the bad things said of you by Madam Gossip, or the charges made against your skill by the fool friend of your competitor, who would not let you doctor his sick dog. It will pay you well in dollars and cents to let your tongue keep silent. Least of all should you make any disparaging or disrespectful remarks about any reputable physician.

It is a big mistake to cut fees. The man who begins it will live to regret it. Sometimes a physician goes into a new community, and seeks to gain advantage and practice by cutting prices. But when he gets established he finds he is working too cheaply, but is at a great disadvantage if he tries to advance prices. Besides, cheapness necessarily carries with it the idea of inferiority. The physician who gains the reputation of being a "cheap doctor," usually gets also the unenviable reputation of being a sorry doctor. As a rule folks do not select their physician on account of what he charges, but on account of their belief that he possesses superior skill as a physician. Exorbitant charges should be carefully avoided. It is both bad policy and bad principle to make them.

A man who is successful in any business trains his mind to be analytical, and his eye to watch the little leaks from the spigots, which, in the aggregate fill a bung hole.

Should a doctor charge interest on past-due accounts? Perhaps opinions will differ on this, as they do on most other subjects. But all business men, so far as my knowledge extends, doctors excepted, charge interest on all past-due accounts. Interest may seem a small matter. But 7 per cent. interest on all your accounts that are over-due, if looked after, and compounded every year, would amount to a considerable sum. It would buy books, journals, and better office equipment. My own practice is to charge interest on all accounts that are not paid by the end of the year in which they are made. I first try to collect them; failing in this, I endeavor to get a note bearing 8%; if I do not secure a note I charge interest on the account any way. I have never lost a customer by this plan so far as I know. (My practice is chiefly among farmers who are accustomed to settle once a year —when they market their cotton.)

Another spigot that is draining away the just earnings of many a physician is the rendering of professional services without making any charge. I do not think a physician should be unreasonable about this matter. I think it unwise and unjust for a doctor, as a rule, to make a charge for triffling services or advice given incidentally, such as when a patient comes to pay his bill, or when talking with some one in a social way, or when you happen to be at a picnic or church. But I believe it is wise and just and right, and good policy to make a charge for every professional service rendered that really amounts to such. He should charge for such things as lancing boils, extracting teeth, clipping the frenum of baby's tongue, vaccination, and giving health certificate when an affidavit is required, or an examination made. Also when a person comes to you and consults you concerning his health in any way, except in case of casual advice being sought without examination. A physician makes his bread and butter by practicing his profession, and in no other way. If he gives away his services, he need not therefore expect people to give him his victuals and clothes.

If you educate your customers to expect free advice and free service for small matters they will give you trouble and consume your time for little troubles that they would not go to a physician at all for if they knew they would have to pay anything for it.

Never call to see a patient without charging for it. People will often call you in for some trival reason because you happen to be handy, as when calling to see a near-by neighbor, or when passing along the road. I always charge for such

visits whether I prescribe anything or not. For these "stop visits" in the country I charge the same price I do for town visits. Never make several visits to a patient, in town or out, in one day, and charge for only one or two visits. I never make any more visits to a patient than I think necessary, but if I make five visits in one day I charge for five visits. These bad cases entail upon the doctor a greater responsibility, cause him more anxiety, more study, than any other practice, and they contribute largely toward making his life one of labor, hardship and self-denial. He is therefore entitled to full fees in these bad cases if he ever is in any cases.

Due to several contributing causes, people are using doctors now-a-days more than ever before. He has to be present to assist each one when he comes into the world, and is expected to gracefully conduct each one out of it, although now and then we hear of one who "just dies by himself", without the aid of a physician. If wisely conducted, the practice of medicine should be a very good business, yet few physicians get rich. It is a hopeful sign that while people are using physicians more now than formerly, they also are getting to be more discriminating. The newspapers and magazines are educating the people on medical subjects. Subjects that ten years ago were considered out of place in lay publications are now discussed freely. People are more intelligent, and better able to judge the merits of a doctor than they formerly were. If a physician should come to my town and do dirty obstetric work,he would likely get but one case. Yet it has not been so very long since much septic work was done here. The intelligent women are learning about these things. They can talk a man out of business in a mighty short time, and an unclean obstetrician ought to be so treated. The doctor of the future, if successful, will need to be really competent, and to adopt business methods in his business. He cannot idle around drug stores, hotels, barber shops and street corners, telling anecdotes, and squirting tobacco juice, and expect to attain distinction and financial success as a physician. The class of people whose patronage is worth having, thrifty farmers, business men, and all industrious artisans—have but little respect for an idler, or a man of careless habits. They admire a man who is business-like, a man who has ability, and, to use a common phrase, "the tools to work with". Emphatically, this is a business age, and, in "the struggle for existence" the physician who fails to adopt modern methods in his business is likely to "get left."

OSTEO-SARCOMA OF THE PELVIS.
With the Report of a Case.

Dr. S. T. Barnett.

Osteo-Sarcomata, connective tissue neoplasms, present two different types, the recognition of which, though very difficult, is important in regard to prognosis and treatment. In one form we have an appearance of encapsulation, in the other no sharp line can be drawn between the normal disease bones, the process extending by infiltration. It would seem that in the early stages of the disease that it is usually encapsulated, later breaking down and by infiltration proceeding with fearful rapidity. Again the tumor is divided by another classification as to the characteristics of the cells and their proportionate number relative to the stroma. The small round cell type is probably the most malignant. Another classification of Osteo-Sarcomata is into the peri-osteal and medullary types.

Like all Sarcomata the etiology of Osteo-Sarcoma is obscure. Despite the fact that Virchow gave considerable credance to traumatisms as a causative factor, it is open to considerable doubt, as the mass may have had its inception prior to the injury, the occurrence of which has simply stimulated a small pre-existing tumor. Nor does syphilis, tuberculosis, heredity or any other condition answer fully the etiological questions that can be asked.

In regard to the bones usually involved by the condition, we find through the statistics at Pollosson and Berard in six hundred and ninety-one cases that the ilium was involved in seventeen cases, and the sacrum in six cases, making a Pelvic percentage of less than three and a half per cent. Coley gives fourteen of the ilium out of two hundred and thirty-four cases of six per cent. I find no statistics of the frequency in the ischium, pubis or coccyx, though it undoubtedly involves those portions of the Pelvis at times. Nor

do I find any differentiation in these special bones between the sexes. Sarcomata generally are about evenly divided between male and female with the preponderance toward the male. The second and third decades are the most frequent period of life, probable seventy per cent. of all kind occurring between fifteen and twenty-five, with. the small round celled variety tending to be earlier.

The symptoms are often vague, but usually begin with a dull constant aching pain, though as Johnson points out, it may be mistaken for Sciatica and that the outset of the pain in malignant tumor of the Pelvis is usually referred to the hip or down into thigh due to pressure on one or more nerves. The appearance of the tumor, unless extra pelvic, is usually slow, comparatively, in becoming visible. Hence, the extreme advancement of most of these cases when first seen by the medical attendant. On the other hand, it must not be lost sight of that the raipdity of growth of these tumors is often appalling. Cachexia is marked especially in the latter stages. On palpation the tumor varies, depending on the type, from the hard fibroid encapsulated giant celled to the soft pulsating aneurysmal small round celled variety. Some times it is mistaken for a fibroid or again simulates a pus sac or aneurysm.

The diagnosis of the Pelvic Osteo-Sarcomata often present peculiar difficulties. The aid of a properly interpreted X-ray negative will be of inestimable benefit, showing in the earlier stages the edges of periosteum dissected up, while in the later period the bone appears worm eaten or entirely replaced by the tumor. Metastases are very frequent, travelling usually by the venous channels as the Sarcomata have in themselves no lymphaties. The fact that the radiograph shows the normal cartilage will aid in the diagnosis, especially from arthritis. Syphilis is more difficult of differentiation at times as is occassionally carcinoma. Harries reports a case with Metastatic growths in the spleen and at the vertibral ends of some of the ribs, showing the range of the disease and variety of structures involved

Treatment is eminently unsatisfactory due to the terrific malignancy of most of the types. Usually the disease is so far progressed that little can be done. Theoretically if no Metastases exist and the tumor can be reached, excision will effect a cure. Practically this is most difficult, especially in the pelvic forms. However, excision is still considered the treatment of choice supplemented by Coley's mixed toxins of the streptococcus and Bacillus prodigiosus subcutaneously. Or in the inoperable forms, Coley's treatment may be used alone or in conjunction with X-rays. Of the more serious operations, I might call attention to one first performed in this country by Freeman and later by Keen and DeCosta, though, originated by Billroth in 1891. From the very large mortality following the sixteen cases given by Keen, together with the horrible mutilation incident to the operation, which some times bears Jaboulay's name, it would seem inadvisable to recommend the procedure tending as it does to bring Surgery into an underserved disrepute with the laity in simpler and to my mind more justifiable undertakings.

With this rather brief review of Osteo-Sarcoma, I desire to report a case which fell into my hands in November, 1910. The case as you will see has some peculiar conditions which brings it home to us all, occurring in a young woman pregnant for the first time and not recognized until about forty-eight hours before her death. Afterwards, I wish to draw some lessons based upon this case but which have equal force were the obstruction due to other and more frequently observed conditions.

Case:—Mrs. M. was brought to me through the courtesy of Dr. J. H. Terrell, who had been called into the case by the first physician with her. She was white, twenty years of age and when able doing her own house work.

Family History:—Her father had typhoid fever a year before his death, which one physician had pronounced Bright's, and again Tubercular-Peritonitis. When he died, they claimed he had an abcess of the liver, though, in good health before the typhoid. Mother living but not in good health and of what they describe as a "Strumons diathesia." One brother and two sisters living and in good health. One sister died in infancy. Maternal grandfather died at seventy, of paralysis. Otherwise, family history negative.

Past History:—She had typhoid when fourteen, and recovering from this, menstruation began. This came two or three times for six months and then regularly

until she became pregnant. She had no great pain or clots at periods. At thirteen or fourteen years of age, first noticed an enlargement in right groin and under the skin. She was suffering then more or less all the time with her right hip. As time passed on, the suffering became more and deeper seated. She described it as being in the bones. She was married at eighteen, became pregnant at nineteen. As pregnancy progressed the paid and suffering increased. The tumor became larger. The last three months of pregnancy was almost unbearable. She slept in a chair, with legs raised at right angles to body. Nothing seemed to relieve the pain. Morphine having only a transitory effect. Her family physician made the diagnosis of sciatica, but remedies for the same had no effect. When labor pains began, they were described as strong for the first hour or so, gradually diminishing both in duration and strength. About this time, Dr. Terrell was called in. On examination, he found a mass on the right side of the Pelvis and preventing the passage of the hand. Two other physicians were then called in. The patient was anesthetized and an attempt made to apply forceps, which failed owing to the interference of the tumor. Later, craniotomy was undertaken, but the child could not be delivered. She was then brought to Atlanta, after being in labor several days, and placed in my care at Wesley Memorial Hospital.

On examination at midnight, I found the patient moribund. She was apparently nine months pregnant. There was a most sickening odor in the room. A tumor was very apparent over the right pubic bone. Internally the mass protruded into the pelvic canal, irregular and taking up over half of the passage. It was soft and spongy in consistency. A tear in the cervical canal was found and a most putrid discharge. The child's head was palpated and found mutilated where the craniotomy had been performed, but the utter hopelessness of the extraction was so apparent that no effort was made to do so. The patient, with a thready, racing, hardly palpable pulse, with respiration from sixty to eighty and evidences of a profound sepsis and labor pains absolutely nil, was evidently sinking so rapidly that, unless the child had been living, Cesarian section was contra-indicated. Death came in three hours after my examination. We were fortunate enough to secure an autopsy, which was performed by Dr. J. E. Paullin, whose report I will now make.

Aputopsy performed on the body of Mrs. —about ten hours after death.

The body is that of a well developed and well nourished woman. There is a distinct lividity of the dependent portions of the body and a very marked distention of the subcutaneous tissues by the presence of gas within its confines. This gaseous distention is noted over the face, the chest, particularly over the abdomen and extends down into the lower limbs. When the skin is cut through numerous bubbles of gas are found to be present.

The abdomen is greatly distended—due to the presence of a greatly distended uterus and as the abdominal walls are opened a large amount of free gas escapes from the peritonael cavity. The enlarged uterus extends within two fingers breadth of the ensiform cartilage, it is soft and boggy to the touch and in places there seems to be a distinct crepitation. On incising the uterus a large amount of gas escapes and the organ is found to contain a well developed foetus. The head of the foetus is quite mutilated as a result of a craniotomy done in an effort to deliver the woman. The anterior portion of the uterine wall near its attachment to the vagina is exceedingly thin and in places seems to be only separated from the peritoneal cavity by the presence of a thin glistening membrane which I take to be the peritonaeum. On the right side this membrane is ruptured and there is a free communication between the peritoneal cavity and the vagina and in this situation there is not the slightest evidence of any uterine musculature.

The peritoneal cavity contains quite a large amount of a bloody fluid, the greater portion of which is collected in the pelvis. The peritoneal surfaces of the intestines and the parietal peritonaeum is smooth and glistening except in that portion of the large intestine which was in the pelvis; here there is a slight amount of roughening of this surface.

On the right side and firmly adherent to the superior ramus of the pubic bone there is a large mass which practically fills the pelvic cavity. This mass grows inward, downward and backward from its attachment, in places it has a distinctly

soft feel while in other parts the tumor is very hard. After considerable difficulty the tumor was removed and it was found that the mass involved in its growth all of that portion of the superior ramus of the pubic bone from its attachment at the acetabulum to the pubic symphsis. The mass measures roughly 12x14x9 cm. the greater portion of the tumor is soft and on pressure exudes a thick bloody chocolate colored material. No definite capsule can be shown. The tumor formed a distinct mass in the iliac fossa on this side and extended in its downward growth about three cm below Pouparts ligament. The size of the tumor and its position was such that it practically filled the entire pelvic cavity so that it was mechanically impossible for the head of the child even to be engaged.

On section this tumor presents a rather homogeneous appearance, there are numbers of little spicules of bone running here and there throughout the tumor and occassionally there are small islands of rather firm tissue surrounded by this soft chocolate colored tissue. In places this softer tissue is distinctly fluid and exudes on slight pressure.

The kidneys showed a slight amount of cloudy swelling and the liver a slight amount of fatty degeneration. All of the other organs showed nothing remarkable except for the fact that there was everywhere present in all of the organs a great many gas bubbles.

Anatomical Diagnosis.

Septicaemia (Bacillus Aerogenes Capsulatus.)

Osteo-sarcoma of the pubic bone obstructing labor.

Rupture of the Uterus.

Foetal craniotomy.

Pelvic peritonitis.

Slight parenchymatous nephritis.

This woman's life, of course, could not have been saved, probably, even if it had been possible to have made the diagnosis several years ago. It would, though, have been possible to have allowed her to have a living child and probably given her surcease, in a measure, from her awful suffering, had a careful examination of the case been made. This is what I wish more particularly to stress, for it seems to me that there is no more crying need in medicine and its allied branches, than that we all, country and city alike, should utilize the means at our disposal and make careful, consistent examinations of all our cases, whether rich or poor. We owe it to ourselves from a purely mercenary point of view, in that it makes us more proficient, gives us a wider range and enhances, eventually, our income. We owe it to the patient, too, for while I realize that the dollars and cents necessarily must have a place in our consideration, they should never enter into the subject, once we have undertaken a case. We should then give them the very best we have in the shop until we have solved the difficulty of the diagnosis, or admitting our inability, get some one else to help. But there is so much that one can do to find out for himself, however meager his opportunities or limited his armentarium. Whether medical or surgical he should exhaust his every resource in making a diagnosis. And especially does this apply in coming to a proper answer in many of the pelvic lesions, with which as abdominal or vaginal surgeons we are confronted. And in nothing, do I think that there is greater laxity than in the proper examination of our obstetric cases. Usually, the physician is engaged and he knows nothing of nor sees his patient until called for the actual delivery. Is it right, have you done your duty by these women because in ninety-nine per cent. of the cases you may get along alright if, neglecting your plain duty, you allow the one per cent. to suffer needlessly or die? I think if such is your practice, whether in city or country, that not only are you wrong, but often times criminally so.

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"WHAT HAS BEEN DONE IN GEORGIA IN THE FIGHT AGAINST HOOKWORM DISEASE."

A. G. Fort, M.D., Atlanta.

In view of the fact that the work leading to the eradication of Hookworm disease in the State of Georgia is so intimately related with the every day duties of the Medical Profession of our State, I beg leave to make a report to this organization of the work that has been done in Georgia and the results accomplished during the last twelve months, and also to give you some of the history which has led up to this organization, and the pursuance of this great work. The Rockefeller Sanitary Commission for the eradication of Hookworm disease was organized Oct. 26, 1909, and the administrative Secretary, Mr. Wickliffe Rose, was appointed in Dec. 1909 and on Jan. 8, 1910, offices were opened in the Union Trust Bldg., Washington, and a definite organization of the work was begun.

As this Commission has been created for the purpose of the eradication of the Hookworm disease, proper and definite steps had to be taken, and existing organized agencies had to be taken advantage of. The State was adopted as a unit of organization and work, because practically every state had its own system of Public Health and of organized medicine, so the commission decided that the best method of procedure was through the various departments of Health, and at a meeting of the Georgia State Board of Health held in Athens, April of last year, I was appointed jointly by that body and the Rockefeller Sanitary Commission as Director of Field Sanitation for the Georgia State Board of Health to take charge in our State of the work of eradication of Hookworm disease which entails the following tasks: 1—To determine the geographical distribution of the infection: next to cure the present sufferers, and finally to wage a campaign for better Sanitation by putting a stop to Soil Pollution.

The following gentlemen were appointed as inspectors of the Georgia State Board of Health to carry on this work under the direction of the Department of Field Sanitation. Drs. C. E. Pattile, C. H. Doobs, P. H. Fitzgerald, S. H. Jacobs, W. C. Thompson, and T. F. Abercrombie. The Geor-

gia State Board of Health looked after the laboratory side of this work, but as such increased to so great an extent the Rockefeller Commission with the approval of the Secretary of the State Board of Health has placed Dr. Pattilo in charge of this special line of work in the State Laboratory. This definite organization of the State of Georgia is devoted exclusively and gives its entire time to the enlistment and accomplishment of its task through the physicians, the schools, the press, and all forces in the State which may be used as agencies in educating the people along the lines of prevention of the infection by proper sanitation, and to impress upon the people the necessity of the cure of those infected.

We have received our information relative to the distribution of the infection from our visits to various counties in the State, and from the clinical symptoms of those we have examined together with the microscopical examinations made either in the field or in the State Board of Health Laboratory. The disease has been demonstrated as heavy in 50 counties, as light in 25 counties and as only demonstrated in 52 counties making a total of 127. To ascertain what per cent of suspects really had the disease we watched quite a number of specimens and have found that an average of 74 7-10 per cent. of the suspects were really infected.

We believe that it exists in every county in Georgia and expect to have this demonstrated in a short time. This disease has been found to exist in Florida, Kentucky, Texas, Oklahoma, California, Nevada, and Washington, beside the nine states organized, namely, Georgia, Virginia, North Carolina, South Carolina, Tennessee, Arkansas, Mississippi, Alabama, and Louisiana.

Various agencies have been used in getting the sufferers cured. The enlistment of the physicians in the various sections of the State is indispensable, next securing co-operation on the part of the people to present themselves for treatment, next providing means of treatment for the indigent. We depend upon the physicians of the State to treat Hookworm disease, as we depend upon them to treat every disease. This is a part of their practice. No one would take it from them, and it will require years of diligent work on their part to accomplish the cure of those suffering and re-infected, and it can only be done by the physicians working intelligenly, persistently, and patiently each in his own section. We have made an effort to enlist the co-operation of the physicians of Georgia by sending to each physician bulletins on Hookworm disease. We have also sent letters to each physician in the State. We have appeared wherever it was practical before the District and County Societies and our inspectors have visited hundreds of the physicians personally making an effort wherever possible and practical to enter into the technique of the examination by means of the microscope.

We have endeavored to secure the cooperation of the people by giving lectures, by talking to parents whose children present evidence of the infection, by giving talks to school children and by examination of school children, and notifying each parent whose child is suspected of being infected together with the bulletins to these parents stating the cause, nature and prevention of the disease, and the methods to the followed in securing a cure. In every section we have endeavored to see that a few typical cases have been treated in order that they might be an object lesson. Recovery which follows the treatment and cure in these cases speaks its own message. The physicians of Georgia, I am glad to state, are becoming more and more interested in this infection and these demonstrations are being multiplied every day by the medical profession over our entire State. People of Georgia are as in every state, have to be shown the value of treatment and the necesssity for prevention. There is no method that is as successful as that of getting one cured in their midst.

As another means for gaining the cooperation of the people we have used the assistance of the press of our State, having visited 102 editors and having secured for publication 169 articles. In most sections of our State, the press very readily publishes these articles, but a few papers still hold to the idea that the work is uncalled for, unnecessary and of little value. Added to this an illustrated lecture on Hygiene, Sanitation, and Hookworm disease especially is given to the public and to the schools.

The matter of providing treatment for the indigent is a perplexing question, A

great many suffering with Hookworm disease are on account of their poverty unable to pay for treatment or medicine. To provide for them we have in many places secured through the assistance of the physicians prescription free of charge and in some places as in Columbus, we have secured the co-operation of various societies in furnishing medicine for these.

The final task in the work of eradication of Hookworm disease is by putting a stop to soil pollution. This is a work of education and will require a great length of time to secure its accomplishment. A sanitary survey is being made on the conditions surrounding homes, churches, schools, mills and similar industrial plants. In Georgia, where about 83 per cent. of the people live in the country soil pollution is generally practiced and with no thoughts of the serious consequences. Of homes, schools and churches outside of cities and towns a large percent have no privy at all and a sanitary surface privy was practically unknown till a short time past. Bulletins are being prepared bearing on this importent subject. They contain plans and specifications so that any person who can read may build one. They are to be sent to the rural homes of Georgia. This has been made necessary by the demands made on us for such information. One County in our State has gone so far as to declare that the school premises, unless provided with sanitary surface privies are not fit places for the teaching of their children and will not provide teachers or funds until the trustees provide same. Many cities in Georgia require them outside of the sewered area and the number of smaller places requiring them is rapidly increasing. The farmers are beginning to recognize their importance and are asking for plans and specifications that they may install them on the plantation. The teachers of Georgia are being taught Hook worm disease and the importance of sanitary surface privies, by means of microscopical examinations made for them, and by teaching them how to build such outhouses.

We have during the last twelve months visited 75 counties, and examined 419 schools in the state, with an attendance of about 40,000 and found about 10,000 suspects. We have made 4,472 microscopical examinations and found 2,105 positive. We have reported as treated about 10,898. We have delivered 400 lectures, many of them illustrated.

With the co-operation of the medical profession of our State we have been enabled to see invalids made robust men and the dullard made to lead his class. We have seen unsanitary surroundings made clean and have seen consumers made producers. We earnestly expect a continuance of the co-operation of the medical profession of Georgia in this war aginst the most prevalent disease in our State and one that is curable and preventable. With your assistance, gentlemen, the work is done.

DIPHTHERIA.

Dallas Williams, M.D., Folkston.

Diphtheria is an acute, infectious and contagious disease caused by the Klebs-Loffler bacillus and characterized, anatomically by a croupous-diphtheretic faucitis, less commonly by rhinitis and laryngitism. Clinically it is characterized by irregular fever, prostration and albuminuria; also by the secondary development of toxemia and often cardiac failure.

The firstmanifestations are inflammation, usually of a mucus-membrane, with production of pseudo-membrane.

Any mucus surface may become infected; Thus under my own observation the process has involved the nasal cavities, the lips, the mouth, the tonsils, the pharynx, the larynx, the trachea and the bronchi.

Swelling of the glands at the angle of the jaw is an early and an important sign if the throat is involved, and the breath in many cases of diphtheria has a peculiarly offensive odor which occurs in no other disease.

By far the most frequent sites of the local manifestations are the tonsils, the fauces and the larynx.

It is not within the province of this paper to go into details as regards differential diagnosis or descriptions of the various phases of the disease, since it is far less prevelant than formerly, but still being a considerable factor in the death rate of this country, I deem Diphtheria worthy of our discussion.

The causes of death, in their order, are as follows: Membranous croup or laryngeal-stenosis; Septic infection, which may

be a slow death; Sudden heart failure—cardiac paralysis; and Broncho-pneumonia, following tracheotomy or occuring during an advanced stage.

There are two reasons for the death rate of this disease. First—the parents who fail to appreciate the possible danger that may arise from a sore throat and who neglect to call a physician early in the illness. Second—the physicians who do not believe in the **Specific Remedy—Diphtheria Antitoxine,** those who timidly use it in small doses late in the disease, or those who wait for positive clinical signs or the report of a culture before using it.

Equally as necessary as is the realization of the value of antitoxine is the knowledge as to how to use use, and when to use it and when fo repeat it.

In many cases, at the beginning of the disease, when the tonsils alone are involved, it is impossible to differentiate diphtheria from tonsilitis without the aid of the laboratory.

In cities where a bacteriological examination is possible, it is in some cases safe to wait for a report from such examination, but out in the country, where most of us have to labor, a safe rule to follow, in those cases where there is pseudo-membrane on the tonsil, is to give antitoxine, give it at once, and **give it in full doses.**

If the case proves to be a simple tonsilitis no harm will follow. I have given full doses of antixine to patients in whom I afterwards learned there was no diphtheria, without any unfavorable results. Cases have been reported of "antitoxine disease" following the use of antitoxine in patients who had previously had antitoxine of one kind or another injected into them, but such symptoms can easily be controlled with the use of **Thyroid Extract** in two grain doses.

Where there is diphtheria and we wait for positive clinical signs or for the report of a culture, even though but for ten or twleve hours, most valuable time is lost and it is this delay that is responsible for many deaths.

If there is one thing, in addition to its great usefulness, that we have learned as to the administration of antitoxine, it is the necessity of giving it at the earliest possible moment in the disease and giving it in full doses.

My experience in the use of antitoxine has convinced me that it is often given in too small initial doses by many familiar with its use.

Several years ago I commenced to use larger doses, and seldom give less than 10,000 units at the first injection.

When there is a membrane on the uvula, the pillows of the fauces or the posterior pharangeal wall, or in the nose, we should never wait for the report of a culture, but give a full dose of antitoxine at once and repeat in eight or twelve hours if there is an extension of the membrane, or if there is no change in its appearance.

If the throat shows a tendency towards improvement, if there is a curling up and loosening of the membrane at the edges, or if it has taken on the granular appearance peculiar to diphtheretic membrane after a full dose of antitoxine, it may be safe to wait twelve hours longer, twenty-four hours in all, before deciding whether a repitition of the original dose or a smaller one is required.

A diminution of the nasal discharge in the nasal cases, a lessening of the breath fetor, a reduction of the glandular swelling and a fall in the temperature—all are indications of improvement, but the physician should not rest there; the constitutional improvement, the clearing up process must be rapid and complete, and when the case shows no sign of improvement, more antitoxine should be given.

A child ill with diphtheria should be looked upon as a child that is poisoned; antitoxine is the antidote, and every case must receive enough of the antidote to neutralize the poison.

Whether this will be supplied depends upon the recentness of the infection when seen by the physician and upon his ability to apply the remedy.

Antitoxine should always be given in diphtheria, no matter how late in the disease the case may be seen by the physician, though the later it is given, the greater the amount required and the greater the need of repeating the injection.

Bacterilogical examination of the throats of school children is of the greatest aid in controlling epidemics.

The fact that the bacilli when found in healthy throats may not be active, is no argument against isolation and antitoxine injections, because if the same germs were

to find a broken or catarrhal membrane they would rapidly develop.

The best preventative measures against diphtheria are a clean mouth and nose, and children should be early taught to employ a small antiseptic gargle or mouth wash as a daily routine, using a weak solution of hydrogendioxide, or better still the normal saline solution.

Forcible irrigation of the nose should not be employed. In such cases the danger of forcing infected material into the eustachian tube with resulting secondary otitis is a real one.

When any member of a family becomes ill with diphtheria the most rigid laws of quarantine should be followed out carefully.

In every case of diphtheria other children of the same family should be immunized.

For this purpose, never less than 3000 units should be given, and cultures should be taken from the throats of children and adults alike. Wherever the bacilli is found, the case should be isolated and treated as diphtheria, so far as quarantine is concerned.

The skin over the abdomen between the umbilicus and the anterior spine of the illium is without doubt the most convenient site for the injection.

The skin is very loosely attached at this point and the serum passes freely under it, requiring but little pressure on the plunger of the syringe, and produces no laceration of the tissues, nor does the soreness of the parts interfere with the childs customary position in bed.

It has been claimed that antitoxine produces deleterious changes in the blood, affecting particularly the red blood-cells. Bearing on this statement I quote from Ewing's Pathology of the Blood: "The red cells in the blood show no distinct or uniform effect from the use of antitoxine, although in some subjects there is a moderate reduction lasting a few hours.

On the other hand, the use of antitoxine, by limiting the process of infection, tends to prevent further disintregration of the blood cells. Within one half hour after the injection of antitoxine the leukocytes, particularly the polynuclear form, if previously abundant, show a marked dissemniation, and in most cases, although the leukocytosis returns after twenty-four hours, it seldom reaches its previous grade." Nursing infants, ill with diphtheria, should be fed on breast milk obtained by a breast-pump, but should not be placed at the mothers breast.

Internal medication should be minimized. Symptoms, such as vomiting or diarrhea, are to be met with sufficient therapy only for their control.

DISTRICT SOCIETY MEETINGS.

The Third District Medical Society in its meeing in Americus, elected Dr. Chas. A. Greer, Oglethorpe, president, and Dr. Joseph E. L. Johnson, Roberta, vice-president.

The Eleventh District Medical Association held its annual meeting in Douglas and elected Dr. Henry C. Whelchel, Douglas, president; Dr. Wallace Williams, Folkton, vice-president, and Dr. T. J. Carswell, Waycross, secretary and treasurer.

At the annual meeting of the Sixth Medical Society, held in Macon, Dr. William J. Little, Macon, was elected president; Dr. E. B. Elder, Indian Springs, vice-president, and Dr. Irby Hammond Adams, Macon, secretary and treasurer (reelected).

PERSONAL

Dr. James Edgar Paulin, Atlanta, has resigned as a member of the State Board of Health.

Dr. Stewart Ralph Roberts, Atlanta, has returned from Italy.

Dr. Frederick D. Patterson has been elected city physician of Cuthbert.

Dr. William V. Parramore has succeeded Dr. Edson W. Glidden, resigned, as superintendent of the Georgia State Tuberculosis Sanatorium, La Grange.

COUNTY SOCIETY MEETINGS.

At an open meeting of the Georgia Medical Society held in Savannah, November 14, Surgeon Claude H. Lavinder, U. S. P. H. and M.-H. Service, delivered an address on pellagra.

Richmond County Medical Society at its annual meeting held in Augusta, Dec. 12th, elected Dr. Thomas D. Coleman, president; Dr. Noel M. Moore, vice-president, and Dr. William C. Kellogg, secretary-treasurer, all of Augusta.

THE JOURNAL OF THE MEDICAL ASSOCIATION OF GEORGIA.

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NEWS: Our readers are requested to send us items of news of a medical nature, also **marked** copies of local newspapers containing matters of interest to physicians. We shall be glad to know the name of the sender in every instance.

URIC ACID DIATHESIS.

There is probably no subject more overlaid in the popular mind with fancy and fable than the part played by uric acid in the causation of disease. A number of years have passed since Haig published his entertaining monograph on uric acid. In this he ascribed to deficient elimination of uric acid a large group of disorders including asthma, hay fever, migraine, chronic arthritis, gout, certain types of nephritis, along with a number of indeterminate symptoms, often considered neurotic in character. He worked out a plan by which we could explain certain phenomena by the hypothesis that the uric acid induced what he termed a collemia or increased viscosity of the blood due to the large size of uric acid molecules which impeded the progress of the blood through the capillaries. He believed that when the uric acid was deposited in the tissues it produced no symptoms as a rule except in the form of gouty deposits, but that, if we instituted an active uric acid elimination, a uric acid storm might be precipitated in the form of attacks of migraine, asthma, etc., during the passage of the uric acid through the circulation, so that the patient might be made to feel better by driving it back into the tissues, as could be done with morphine, for instance. The use of alkalies, according to Haig, or of salicylates combined with acids favored the elimination of uric acid.

Among experimental students of this subject Haig has stood practically alone in a realm where sure landmarks were wanting and where great haziness of conception prevailed, Haig's definite and clear-cut statements have continued to carry weight out of all proportion to their value. The manufacturing houses have flooded the market with products acclaimed as uric acid solvents and recommended for the treatment of conditions supposed to be due to uric acid. More conservative men, while rejecting the term uric acid, have believed that in the employment of these various combinations of alkalies, salicylates, and laxative salts, they have secured beneficial effects due to an increased elimination, though not venturing an opinion as to just what the poisonous products eliminated might be.

An interesting by-product of the uric delusion is to be found in the tremendous commercial exploitation of various waters. Someone long ago once expressed the opinion that the salts of lithia especially promoted the elimination of uric acid, acting in this respect more powerfully than sodium or potassium salts. Though there has been found no support for this view, an enormous toll has been enacted from

the public by persons who have put it forward to promote the sale of various lithia waters. Despite the fact that none of the lithia waters contain as much lithia to the gallon as is contained in the ordinary five-grain tablets and that the government report has shown that the most widely used of any of them contains at the present time practically no lithia at all, an enormous tribute is yearly exacted of the public for these waters which at the best represent nothing more than pure table waters.

In the Berliner Klinische Wochenschrift for Nov. 20th, appears an article under title "The Diagnosis of Gout by Means of Atophan" by Zuelzer, which promises a freshening of this dusty domain from the diagnostic as well as the therapeutic standpoint.

"During the short time," he writes, "since the introduction into therapeutics of Atophan, it has not only acquired a place of its own, but we are justified in saying that its rank in our pharmalogical armamentarium is such that it must be reckoned with those drugs that are to be regarded as indispensable.

"It is about six months since Heller reported his extraordinarily favorable experience in employing Atophan in gout and acute inflammatory rheumatism.

"Our further experience in about 50 cases is such as to entirely confirm our first impressions. In the seven cases of gout formerly reported the pain and the swelling in the joints was promptly relieved by Atophan and I can now report 14 additional cases, though 2 of these were not at all influenced by Atophan. In these 2 cases the radium cure was also unsuccessful. Why Atophan completely failed in these two cases—one was a throughly typical case of gout in a man 35 years old—as yet entirely escapes our reckoning. In fact we really know practically little or nothing of the manner in which Atophan produces its beneficial effects. The only indisputable fact is the finding of Nicolaier and Dohrn that phenylated chinolin carbonates possess the property of inducing a marked rise in the excretion of uric acid and that as Wlintraud showed this property is manifested even in the gouty. We have already called attention to the fact that the urine of the gouty during the administration of Atophan shows constantly a heavy sediment of almost pure uric acid with a few urates, while in inflammatory rheumatism no such uric acid crystals appear. Since then we have observed all patients that were taking Atophan and have found that in the non-gouty to whom the drug was given the precipitation of any considerable quantities of uric acid ceased after the first or at latest the second day, while in the gouty uric acid (and urates) were thrown down for a number of days. There appears usually at the bottom of the container a cloudy grayish white layer of uric acid several centimeters in depth. As the gouty phenomena disappear, and the percentage of uric acid in the blood declines under the influences of Atophan, the sediment gradually lessens. Only in the two ceases of gout mentioned as being refractory to Atophan have I found absent from the urine this typical uric acid precipitate. Hence, I believe that we have, through observing the urinary sediment after the administration of Atophan, a diagnostic aid practically sufficient to enable us to distinguish gouty from non-gouty affections of the joints."

After detailing his experimental studies on the blood and urine of a series of patients the author concludes that with trifling exceptions this thesis may be regarded as established:

"That through the administration of Atophan a simple means is offered of distinguishing between gouty and non-gouty affections of the joints since in the gouty for a considerable time, at least till the disappearance of the joint pains, a marked precipitation of uric acid is formed in the urine while in the non-gouty joint affecions the uric acid excretion is slight and lasts for not more than one or two days."

It would appear from the above considerations that in Atophan we are furthermore possessed of an agent destined to clear the field of much of the rubbish about uric acid as a causation factor in disease, and of many of the vague concepions as to the existence of a gouty diathesis sufficing to explain various ill-defined pains in the viscera and elsewhere.

DUES AND SUBSCRIPTIONS.

The dues to the Medical Association of Georgia are three dollars per year, and are payable to the secretary of the local

county society, together with the county dues of one or two dollars, as the case may be.

The benefits of membership in the state association have been enumerated so many times that they scarcely need repeating: Eligibility to membership in the American Medical Association, the **Journal** of the Medical Association of Georgia, which alone, we believe, is worth the whole amount of the dues.

Dues for the year 1912 are now due and their early payment will secure a continued reception of the **Journal** with no break, and will enable the State Society to conduct its affairs with the minimum of trouble and expense.

At the Rome meeting the House of Delegates passed a resolution instructing the secretary to, on May 1st, remove from the membership list, and from the mailing list of the **Journal** all those members still in arrears for the current year's dues. There were many qualms and misgivings of the result of such a radical change in our method of handling of delinquent members; but the result was so good that the House of Delegates at Savannah instructed the secretary to continue the method and to publish in the May, 1912, **Journal** a list of all those in arrears April 15th.

The membership of the Association is now increasing. This is a grand showing in the matter of quantity (or numbers) and we are pleased that this increase has been made not at all at the expense of quality. Undesirable men have been kept out repeatedly during the year as they should be at all times. While numbers in an organization are always desirable, no organization can afford to take in, as members, persons of questionable ethics.

Please remit to your county secretary, whose name and address will be found on cover page ii; and, while we are having this heart to heart talk, do not fail to notify the secretary of changes of address should any be made—and send us news items.

NATIONAL FORMULARY ELIXIRS AS TIPPLES.

Just as the moral coward to forget his troubles (obligations) by getting drunk, so people are inclined to seek relief from certain ailments by small doses of alcohol taken in the form of brandy, whiskey, wine or toddy. While physicians know that it is bad practice to "treat a cold" with whiskey (much) and quinine (little), to "improve digestion" with some bitters before, or a cordial after meals, or to "tone up the system" with liberal doses of claret or sherry, they nevertheless have fallen into the habit of administering alcohol where none is indicated.

As a result of these tendencies we have the horde of "patents" which invite the users to become habituated to the use of alcohol, the "calisaya tonics", the wines of "iron" and of "beer" which the doctor is expected to introduce to public favor as tipples, and the many pharmacopoeial and National Formulary preparations containing needlessly large amounts of alcohol. While ignorance does not excuse the physician, it is a fact that he has prescribed these in total ignorance of their dangerous alcoholic content—having relied on the manufacturer and the pharmacist to use an amount of alcohol sufficient only to retain the virtues of a remedy or to preserve it.

That pharmacists are beginning to appreciate their responsibility in the matter, is shown by the report (J. A. M. A., Dec. 16, 1911, p. 2013) of the Washington branch of the American Pharmaceutical Association meeting at which a strong protest was made against the inclusion in the next edition of the National Formulary of elixirs which contain a needlessly large amount of alcohol and which are liable to be used as tipples.

Incidentally it is shown by the discussion that the humbug, Elixir Digestivum Compositum, is to be retained despite the appeal of the American Medical Association's Council on Pharmacy and Chemistry that it be omitted.

MEDICAL JOURNALS AND THE GREAT AMERICAN FRAUD.

Characterizing the proprietary medicine business as one of the greatest evils that, today, besets the medical profession and, through the medical profession, the public, the Journal of the American Medical Association points out that the Association's propaganda for reform will not be a success so long as the men who stand in the front ranks of the profession lend their endorsement to the nostrums which

have been condemned by its Council on Pharmacy and Chemistry. Such tacit support is given by some of our most eminent men, when their names appear as contributors to medical journals which lend their pages to the advertising of nostrums of all kinds. As a type is named the **American Journal of Surgery** which carries advertisements of such things as Antikamia, Phenalgin, Micajah's Wafers, Tyree's Antiseptic Powder, Campho-Phenique, Anasarcin, Sal Hepatica, etc., etc., etc., while among its contributors are featured men who hold or have held high offices in the American Medical Association, presidents, vice-presidents, chairmen, secretaries and members of sections of the Association.

The charge against the men upon whom we have looked as leaders is a serious one, but the charge is just. But we believe that this support of the nostrum has not been a deliberate one and that the men whom we honor and respect will know how to do their duty.

Flovilla, Ga., Jan. 8, 1912.

To the Editor
Journal Medical Association of Georgia,
Augusta, Ga.,

Dear Sir:—I have read with much interest your criticism on the different medical examining boards of Georgia, and especially the Electric Board of which I have been a member for eight or ten years. I was its President for four years. Therefore I think I am in a position to speak personally and officially, of the past action of that board. You also state that there are not in Georgia ten applications who failed before the regular Board prior to 1910, who are not now practicing medicine legally in Georgia. After failing before the regular Board, they immediately then go before the Electic Board or Homepathic. And are granted license. Allow me to say to this assertion, your are quite mistaken, as I cannot call to mind a single instance in which an applicant, who failed before the regular Board, and then came before the Electic Board. It has been the policy of the Electic Board to examine none but graduates of the Electic school. I assure you none has passed my branches who did not make 75 per cent. in his full examination. You state that one member of the Electic Board, stated to you that we. (The Electic Board) wish to even up in numbers. I do not know who that member was, but one thing I do know, he does not speak the sentiment of the Board. We care not for numbers but want competent physicians, regardless of what school they belong to. As to the examinations given by the Electic Board, they are as rigid as any given by a Board in Georgia, and we are willing to publish our examination in any Medical Journal in Georgia. That the profession may know what we are doing, and the general average of each student. We also extend an invitation to each member of the regular Board, or any member of the profession, to be present at our examinations.

You refer also to the Electic Board of Pennsylvania in its examination, this Board has nothing whatever to do with the action of the Board of Pennsylvania. I assure I stand ready any time, to do any and everything to elevate the standard of the medical profession in Georgia. I think if you will inquire into my professional standing at home, you will find this to be true. I think your criticims are hard and unjust to our Board. I realize that there is a great opportunity in Georgia to unite all the schools and boards and have a great medical center, but when I look around among the Regular School and see the contention and discord, I see no hope for this result. Therefore I guess their is room for all of us.

Yours very Respectfully,
A. F. WHITE.

FROM THE LITERATURE

EXCERPTED FROM CABOT'S CASE TEACHINGS.

Q. What causes produce tarry stools?

Ans. Bismuth, iron, blackberries, blood from high up in gut.

Q. What are the commonest causes of splenic enlargement?

Ans. Typhoid, malaria, rickets, cirrhosis, leucaemia, anaemia.

Q. What is the usual signficance of moaning and teeth grinding during sleep?

Ans. Functional cerebral irritation; no organic disease. Common in rickets and in neurotic children. Popular fallacy that "worms" are the cause.

Q. How are the cardiac murmurs affected by change of position?

Ans. All systolic murmurs are louder in the recumbent position. Presystolic murmurs are louder in the erect position, while disastolic murmurs are unaffected.

Q. Types and causes of arthritis?

Ans. Infectious (including acute "rheumatism") atrophic, hypertrophic, gouty, neuropathic, haemphilic.

Q. What varieties of arthritis are often associated with cardiac disease?

Ans. Only the infectious types: e.g., "rheumatic," septic, gonorrhoeal, scarlatinal, pneumococcal. Tuberculous and syphilitic infections of joints are rarely associated with endocarditis.

Q. What are the common causes of frequent micturition in women and in men?

Ans. In women, (a) nervousness and debility from any cause; (b) less often cystitis ("simple", gonorrhoeal, tuberculous, or calculous); (c) the pressure of the pregnant uterus or other tumors; (d) pyelitis (tuberculous or septic). In men, (a) prostatic obstruction and its results; (b) cystitis (gonorrhoeal, tuberculous, etc.); (c) pyelitis (as in women). Occasionally, in either sex, chronic nephritis may produce frequent as well as profuse micturition.

Q. What are the possible causes of a systolic murmur heard all over the precordia, rough over the base, but becoming softer as the apex was approached and transmitted a short distance into the axilla?

Ans. (a) Arterio sclerotic roughening of the aortic arch or of the aortic valves; (b) Anaemia and other causes of insufficient muscular contraction of the valve-orifices (but such murmurs are usually louder in the pulmonary area.) (c) Aneurism of the aorta; (d) Aortic stenosis (provided always that other signs of that lesion are present, thrill and plateau pulse especially).

Q. What diseases often cause epigastric pain relieved by the belching of gas?

Ans. Dyspepsia of various types, angina pectoris, neurasthenia. Usually motor disturbance and not fermentation is the cause of such belching.

Q. What abdominal tumors are most frequent in children?

Ans. Sarcoma of kidney; congenital cystic kidney, dilated colon, secondary enlargements of spleen and liver.

Q. How are tumors of the kidney to be distinguished from enlargement of the spleen?

Ans. The sharp edge of the spleen and its notch can usually be felt. The kidney produces a rounded tumor palpable bianually with one hand in the flank. The inflated colon traverses tumors of the kidney but passes behind those of the spleen.

Q. What are the commonest causes of cyanosis?

Ans. Heart disease (valvular or parietal), emphysema, pneumonia, asthma, methaemoglobinaemia (usually from acetanilid in headache powders.)

Q. Commonest causes (a) of absent knee jerk? (b) of increased knee jerk?

Ans. (a) Neuritis, tabes, anterior poliomyelitis. (b) Brain hemorrhage or other organic brain lesion (focal or diffuse), spastic paraplegia, pressure myelitis, chronic arthritis.

Q. What infectious diseases cause severe pains in the trunk and limbs?

Ans. Grippe, tonsillitis, variola, dengue, trichiniasis, yellow fever. Milder pains accompany some cases of typhoid, sepsis, pneumonia, or any other infection.

Q. What is meant by re-enforcement of knee jerks?

Ans. We distract the patient's attention and concenrate brain control on the muscles of his hands by making him lock his hands together and then break them apart just when we tap on the patella tendon. This tends to "bring out" knee jerks.

Q. What pulmonary diseases cause pain?

Ans. Pleurisy ("simple", tuberculous, or pneumonic), maligant disease.

Q. Under what condtion is the cardiac impulse absent?

Ans. Thick chest walls or emphysema may hide the heart; pleural effusion, pneumothorax or adhesions may displace it behind the sternum. Its beat may be too weak to feel.

Q. Significance of puerile respiration?

Ans. Extra work done by the lung.

Q. What is the general significance of an improvement of all symptoms in the afternoon? If symptoms are regularly worse in the afternoon, what should be suspected?

Ans. Anaemic patients and neurasthenics are apt to be better in the latter part of the day. Patients who are worse in

the afternoon often have fever (tuberculosis, malaria, typhoid), but simple fatigue may be the cause.

Q. Significance of tremor of the eyelids? Its distinction from habit chorea and other facial spasms?

Ans. Usually hysterical or neurotic. The motions are finer and more continuous than any other spasm.

Q. Under what condition is the ferric chloride test in the urine to be obtained?

Ans. (a) Whenever carbohydrate food is not adequately utilized. This may be because it is not ingested or not retained (as in starvation, prolonged vomiting, or rectal alimentation), because it is not absorbed (diarrhoea, tuberculous peritonitis) or not metabolized (diabetes). In this case the semi-starvation readily explains the reaction. (b) In a few conditions the ferric chloride test cannot be so explained, e.g., on a salt-free diet the reaction has been found to be strongly marked.

Q. Causes of pyrexia and of subnormal temperature:

Ans. (a) Infectious with or without inflammation; (b) toxaemia (e.g., in eclampsia); (c) disturbance of heat-regulation, as in sunstroke; (d) after use of atropine and in nervous excitement. Subnormal temperature is a measure of the degree of prostration from any exhausting or wasting disease (nephritis, cancer, heart disease, myxoedema).

Q. Significance of the tongue in disease?

Ans. A coated tongue has little diagnostic significance in general, since it is present in so many conditions of health and disease. A clean tongue with dyspeptic symptoms suggests hyperchlorhydria or extra-gastric disease.

Q. In what diseases is bronchial breathing to be heard?

Ans. Phthisis, pneumonia, some cases of pleural effusion, malignant diseas, atelectasis.

Q. Name the most important causes of paroxysmal epigastric pain.

Ans. Peptic ulcer, gall-stones, plumbism, tabes, malaria, uraemia, and pancreatitis.

Q. What diseases are most often dignosed as "rheumatism"?

Ans. Osteomyelitis, neuritis, arthritis deformans, tabes, gall-stones, trichiniasis, tuberculous or syphilitic osteitis, aortic aneurism.

Q. What relations are there between joint troubles and diseases or anomalies of the nervous system?

Ans. In tabes and syringomyelia painless but very destructive joint troubles may occur ("Charcot's joint"). In many chronic joint troubles muscular atrophy is exceedingly rapid and the reflexes are increased.

Q. Significance of a rattle in the throat?

Ans. Tracheal rales occur whenever inflammatory or dropsical fluid accumulates in the trachea, owing to coma or to weakness which renders the patient unable to raise and expectorate or to swallow the fluid. It is a bad sign, because it means either very deep (and therefore serious) coma, or very severe prostration.

Q. Significance (a) of throbbing carotids; (b) of other servical pulsations?

Ans. (a) Throbbing carotids mean violent heart action, low arterial tension, or both. They are seen in cardiac hypertrophy from any cause, especially in aortic regurgitation, in nervous persons, and in marked anaemia. (b) Aneurism a normal subclavian artery crossing a cervical rib, the normal (diastolic) undulation of cervical veins, and the systolic venous pulse of tricupsid leakage should be remembered.

Q. Significance of the vomiting of greenish fluid?

Ans. Violent or prolonged vomiting from any cause, e.g., from seasickness, squeezes bile into the duodenum whence it regurgitates into the stomach and is vomited.

Q. Common causes of oliguria?

Ans. Obstruction (prostatic, cancerous, or calculous), nephritis, infectious fevers, starvation (including pyloric obstruction with gastric dilatation), vomiting, diarrhoea, sweating, low proteid diet, hysteria.

Q. What organs and tissues are injured in plumbism?

Ans. The gums, the blood, the nerves supplying the extensors, the brain, the arteries, the kidneys, the gastro-intestinal tract (colic, constipation).

Q. Significance of rales?

Ans. Rales mean fluid in the chonchioles. They are due to bronchitis ("simple" or tuberculous), asthma, pneumonia, ate-

lectasis (inflammatory or dropsical), and oedema of the lungs.

Q. What diseases can produce emaciation with jaundice?

Ans. Gall-stones, and their results, cancer obstructing the biliary passages, syphilis of the liver, cirrhosis, septisaemia (toxaemic jaundice).

Q. Common causes of hepatic enlargement?

Ans. Passive congestion, biliary obstruction from any cause, fat, cirrhosis, cancer, rickets; rarer causes are abscess, leucaemia and pseudoleucaemia, cholangitis, amyloid, and hydatid disease.

Q. What are the bad effects of masturbation?

Ans. In many cases there are no demonstrable ill-effects whatever. In a few cases the youth seems to be debilitated by it. That it ever produces brain disease is very unlikely. It is a symptom, not a cause of mental unfeeblement. In many boys a neurosis is produced by the shame and remose associated with it and by fear of its terrible consequences as they are (quite falsely) delineated in quack newspaper advertisements or by friends and parents. This neurosis entails insomnia, anorexia, constipation, emaciation, and may thus bring about a pitiable condition.

Q. Common causes of frequent micturition in youth?

Ans. Nervousness (especially in girls), hyperacid urine, the irritation of a phimotic foreskin, or of retained, smegma gonorrhoea, cystitis, diabetes (either type.)

Q. Significance of frequent nocturnal micturition?

Ans. Prostatic obstruction, chronic nephritis, nervousness (in women).

Q. Causes for accentuation of the aortic second sound? (b) of the pulmonic second?

Ans. (a) Arterio-sclerosis, aneurism, high tension in the peripheral arteries (neuphritis; excitement). (b) Obstruction in the lungs due to mitral disease, pneumonia, any chronic lung trouble, pleurisy, and thoracic deformities.

Q. Causes of frontal headache commonest at fourteen?

Ans. Eye-strain, adenoids, frontal sinus disease, malaria, pubescence.

Q. Significance of pallor in general?

Ans. Pallor may mean anaemia, but often does not. Deficient skin circulation, congenital or acquired (stokers, residents in the tropics), is a more frequent cause. Many consumptives and many neurathenics are pale, but few are anaemic. Nausea and faintness produce local anaemia, and of course without blood change. No diagnosis of anaemia is justified until the physician has seen the color of a drop of blood on filter paper (Talquist scale) or on a handkerchief.

Q. When a patient's chief complaint is weakness, what diagnosis should be considered?

Ans. Anaemia, bad hygiene, typhoid, nephritis, endocarditis, myxoedema, tuberculosis.

Q. Name five common causes of pain in the left axilla.

Ans. Dyspepsia, pleurisy ("simple", pneumonic, tuberculous), intercostal neuralgia, muscular pain, hypertrophic spondylitis.

Q. What facts justify the statement: "There is no evidence of suppuration anywhere?"

Ans. That the classical signs of inflammation (redness, heat, swelling, tenderness, and pain) are absent; that leucocytosis is absent.

Q. What are the relations of bronchitis and other pulmonary lesions to disease of the heart?

Ans. (a) Chronic bronchitis may lead to emphysema, and this to hypertrophy, dilatation and weakening of the right ventricle with tricuspid leakage. (b) Mitral disease may favor the occurrence of bronchitis and pneumonia of various types. Intracardiac thrombosis, occurring in weakened conditions of the heart from valvular or myocardial disease, may result in pulmonary embolism. Septic or bland emboli are occasionally washed into the lungs from vegetations on the tricuspid valve. The rare lesions of the pulmonary valves involve malnutrition of the lungs and (in one case known to me) frequent attacks of pneumonia. Phthisis and endocarditis rarely coexist.

Q. What is a high enema? How and with what materials should it be given?

Ans. A high enema is one which reaches above the rectum for a greater or smaller distance. It should be given with soft rubber tube passed up as high as it will go, with the patient on his left side and the hips raised. Warm suds preceded by warm oil may be used.

Q. In what types of hepatic enlargement is pain a prominent symptom?

Ans. Chiefly in passive congestion and in cancer. (Gall-stones may produce much pain, but do not often produce demonstrable hepatic enlargement). In abscess there is no pain until the pus has burrowed up close to the surface so as to stretch the capsule where lie practically all the nerves of the liver. Cirrhosis is rarely painful, syphilis often painless.

Q. Causes of albuminuria?

Ans. Passive congestion of the kidney, infectious fevers, the "irritation" of bile or sugar in the urine, nephritis, renal arterio-sclerosis, haematuria, and pyuria from any cause, the intermixture of vaginal discharges. In many cases (orthostatic, adolescent) no cause can be found.

Q. Causes of subcutaneous hemorrhage?

Ans. Traumatism, infections (such as meningitis, typhus, sepsis, and the exanthemata), toxic, cachectic, scurvy, arthritic purpura, unknown causes ("simple" purpura, purpura hemorrhagica).

Q. Important causes of coma?

Ans. Apoplexy (including cerebral hemorrhage, thrombosis, and embolism), uraemia and hepatic toxaemia, diabetes, cerebral concussion and compression, syncope (fainting), poisoning by opium, alcohol, and illuminating gas, sunstroke, epilepsy (after the seizure), hysteria.

Q. Significance of nasal voice sounds?

Ans. This is "egophony" and occurs oftenest in pleural effusion—sometimes in solidification of the lung from any cause.

Q. Commonest causes of leucocytosis?

Ans. Infections, local or general, due to cocci (strepto—, staphylo—, pneumogono—, meningococci) scarlet fever and diphtheria, violent muscular exertion, some toxaemias, e.g., uraemia and gas poisoning, and any acute organic brain lesion.

Q. In what diseases do night sweats occur?

Ans. Those producing fever, prostration, or both; phthisis, syphilis, rheumatism, pneumonia, and typhoid (especially in convalescence), septicaemia in all forms, alcoholism, neurasthenia, and others.

Q. Significance of cough?

Ans. The commonest causes of cough are (a) irritation of the upper air passages; (b) any disease of the lungs; and (c) any disease of the heart that produces pulmonary stasis.

Q. Name three common fevers which may run for weeks without touching normal?

Ans. Typhoid, tuberculosis, speticaemia (with or without septic endocarditis.)

Q. In what diseases do patients wheeze?

Ans. Asthma, emphysema, some cases of bronchitis, bronchial or tracheal stenosis from cicatrix (syphilis), or from pressure (aneurism or tumor).

Q. Significance of inspiratory and of expiratory dysponea?

Ans. Inspiratory dyspnoea means obstruction in the upper air passages ("croup", diphtheria, quinsy, post-pharyngeal abscess, foreign bodies in the larynx). Expiratory dyspnoea is seen chiefly in asthma and emphysema. Mixed forms occur in other diseases of the lungs and heart.

Q. What is the significance of a urine of low specific gravity?

Ans. Profuse ingestion of fluid, nervousness, chronic intestitial nephritis, diabetes insipidus.

Q. Name the most important causes of dyspnoea.

Ans. Cardiac weakness, emphysema, pleural effusion, pneumonia.

Q. (a) Significance of orthopynoea? (b) In what diseases does it most often occur?

Ans. (a) Orthopnea means dyspnoea so great that lying down causes distress. (b) It is oftenest seen in the diseases mentioned above.

Q. Causes of displacement of the apex impulse?

Ans. Cardiac hypertrophy or dilatation, pressure of pleural effusion or subdiaphragmatic tumors, contraction of a diseased lung with pleural and pericardial adhesions, situs inversus.

Q. Causes and types of atrophy?

Ans. Diuse, neuritis, progressive muscular atrophy, chronic joint disease, poliomyelitis anterior, amyotrophic lateral sclerosis.

Q. Causes of muscular tenderness?

Ans. Neuritis, myositis (e.g., trichiniasis), oedema, or inflammation of neighboring tissues.

Q. What other types of tenderness are there?

Ans. Cutaneous hyperaethesia, serous membrane hyperaesthesia (as in appendicitis and other abdominal lesions), bone tenderness, as in periostitis, nerve tenderness, as in neuritis.

Q. What types of anaemia are oftenest seen at 55?

Ans. Perinicious anaemia, and that secondary to cancer, metrorrhagia or other hemorrhage.

Q. What diseases are oftenest diagnosed (wrongly) as "Grippe"?

Ans. Tuberculosis, febrile gastro-enteritis, tonsillitis and pharyngitis, bronchitis, and many other infections not yet named.

Q. Significance of the absence of free HCL in the gastric contents?

Ans. It may be temporarily absent in many conditions and often without any known cause. Permanent absence of HCL is commonest in diabetes, gastric catarrh and other chronic dyspepsia, gastric cancer, and pernicious anaemia.

Q. Commonest causes of loss of weight?

Ans. Improper or insufficient diet, diarrhoea, arterio-sclerosis and the attendant changes of old age, loss of sleep, malignant disease.

Q. Causes of bradycardia?

Ans. It is important to distinguish infrequent heart-beat from infrequent pulse-beat due to failure of transmission of a weakened cardiac impulse. True bradycardia occurs after fevers, great exertion, parturition, in the toxaemia of nephritis, cirrhosis, and jaundice, in organic brain disease (tumor, abscess, meningitis). The most marked and long continued cases of bradycardia are usually associated with coronary sclerosis any myocarditis.

Q. What do you infer if a pectoral muscle contracts when percussed?

Ans. Increased muscular irritability, such as is present in many cases of debility, however produced.

Q. What is the value of the diazo reaction?

Ans. The presence of a diazo reaction is never of considerable diagnostic value, though its absence in a febrile case argues against typhoid. In any disease it is a bad prognostic sign.

Q. What are the commonest causes of tenderness over the skins?

Ans. Oedema, periostitis.

Q. How many ounces of fluid does the normal stomach hold?

Ans. About forty-eight.

Q. Significance of mucus in the stomach content?

Ans. Mucus is always present in the stomach. By practice with many cases needing gastric lavage, one learns to recognize how much mucus is to be extracted from the normal stomach, and hence to recognize marked excess suggesting catarrh.

Q. Types of facial paralysis?

Ans. Central paralysis, usually appearing as part of hemiplegia, aural paralysis, occuring in cases of well-marked ear disease, and peripheral paralysis, occurring without any other lesion.

Q. What odors in the breath are of diagnostic or prognostic value?

Ans. Thos. of alcohol, acetone, and illuminating gas in diagnosis; the foul, heavy odor of many serious diseases in prognosis.

Q. Common causes of symmetrical abdominal distension?

Ans. Tympanities, obesity, ascites, tuberculous peritonitis.

Q. What can be inferred from the statement "decubitus dorsal with legs outstretched"?

Ans. That no considerable abdominal pain is present.

Q. What are the possible causes of swelling of one arm?

Ans. Venous thrombosis or pressure on a venous trunk between the arm and the heart; inflammatory exudation (sepsis); arterial thrombosis. Occasionally dropsical oedema may settle in one arm if the patient has been lying long on one side.

Q. What are common causes of swelling in the face?

Ans. Nephritis, cardiac disease, inflammatory oedema (as in erysipelas), angio-neurotic oedema. In the early morning many persons have swelling of the face off and on without known cause or sequelae.

Q. Common causes of sugar in the urine?

Ans. Diabetes mellitus, neuroses (worry, fear, etc.), coma from any cause (including narcotics), pregnancy.

Q. What diseases produce the deepest icterus?

Ans. Gall-stones and cancer of the pancreas.

Q. Common causes of true chills?

Ans. Malaria, sepsis, tuberculosis, the onset of any infection, neurasthenia.

Q. In what disease besides malaria may chills recur daily at the same hour?

Ans. Sepsis, tuberculosis.

Q. Types of thrombosis?

Ans. Puerperal, infectious (typhoid),

post-operative, marantic, those seen in cardiac disease, and those of unknown cause.

Q. (a) What are the commonest causes of insomnia in a laborer of 29? (b) In old age? (c) In a baby?

Ans. (a) Alcoholism. (b) Arterio-sclerosis and its consequences; physiologically the old sleep much less than the young. (c) Indigestion.

Q. What diseases increase weight?

Ans. Obesity, cardiac and renal disease, myxoedema.

Q. Causes of bloody expectoration?

Ans. Phthisis, pneumonia, infarction of the long due to congestion (as in mitral diseases or from embolism), pulmonary abscess or gangrene, wounds or malignant disease of the lung, ruptured esophageal varices (in cirrhotic liver), leaking aneurism.

Q. Name and distinguish five common varieties of colic.

Ans. Biliary, renal, uterine, intestinal (including saturnine) and that due to Dietl's crises. In biliary colic the pain is apt to spread from the region of the gall-bladder to the back and right scapular region; jaundice may appear before, during, or after the attack. In renal colic the pain follows some portion of the course of the ureter, and is often associated with the passage of blood or gravel by uretha. Uterine colic is usually associated with or precedes flowing—menstrual or irregular—and is referred to the groins or pelvis. Intestinal colic (if not saturnine) is associated with diarrhoea or flatulence. It shifts its position frequently. Lead colic is recognized only by association with other evidence of lead (gums, blood, brain, extensor muscles). Dietl's crises are recognized only by the association of abdominal pain with the presence of a floating kidney and the absence of the signs of other colics.

Q. In what disease do the pupils give the most important information?

Ans. Tabes dorsalis, general paralysis, old iritis, morphia poisoning, aneurism of the aorta.

Q. What cervical tumors are commonest?

Ans. Adenitis (tuberculous or septic), Hodgins disease, leucaemia, cervical rib, branchial cysts, cancer, and sarcoma.

Q. What form of alcoholic drink has most often a demonstrable and permanent effect upon the heart?

Ans. Beer. A hypertrophy and subsequent dilatation often occurs. Whiskey usually produces only temporary weakness.

Q. Causes and types of tachycardia?

Ans. Any physical or emotional activity, many infectious diseases and toxic states, cardiac weakness and dilatation from any cause, Graves' disease, "paroxysmal tachycardia."

Q. (a) Causes of severe thoracic pain? (b) If mild thoracic pain?

Ans. (a) Pleurisy (pneumonic, tuberculous, or "simple"), angina pectoris (organic or functional), intercostal neuralgia, muscular pain ("pleurodynia") spondylitis (nerve-root pains), trichiniasis, aneurism. (b) Infectious diseases, fatigue.

Q. Causes of substernal percussion dulness?

Ans. Aneurism, enlarged bronchial glands (tuberculosis, pseudoleucaemia, sepsis, cancer, sarcoma), tumors of the thyroid or thymus gland, mediastinal abscess.

Q. Causes of accentuated aortic second sound?

Ans. Increased peripheral resistance due to arterio-sclerosis, nephritis with high tension pulse, severe muscular exertion, aneurism.

Q. What are the common causes for the appearance of slight dyspnoea in a man of 57?

Ans. Arterio-sclerosis and its results, emphysema, obesity.

Q. (a) What abdominal tumors move most freely with respiration? (b) What least freely?

Ans. (a) Those connected with the liver, stomach, and spleen; (b) those connected with the kidney and pancreas.

TREATMENT OF CHLOROSIS.

It is well known that all cases of chlorosis do not re-act equally well to iron, and that in severe cases, especially those that have a low red blood count, arsenic must be used along with iron. It is evident from the instructive studies made by A. Zwetkoff in the polyclinic from the University of Berne that even in mild cases the combination of arsenic and iron give better and quicker results. The material

studied consisted of such mild cases as are suited to ambulatory treatment. One group of these were treated with arsenic alone, a second with iron alone and a third with arsenic and iron at the same time. It proved that those treated with arsenic alone, whether internally or subcutaneously, made no appreciable improvement, and the condition of the blood was not noticeably influenced. The treatment of chlorosis with iron alone—the iron being given exclusively in the form of Bland's pills—gives good results, it is true, but the simultaneous use of iron and arsenic produced a decidedly more rapid improvement. As early as the second or third week of treatment an intensive increase in the haemoglobin was found. The new formation of red cells proceeded from two to three times as quickly as with simple iron treatment. Arsenious acid was employed in doses of from 1-30 to 1-20 grains thrice daily. (Zeitschr f. Exp. Pathol. Bd. 9.)

SOMETHING INTERSTITIAL.

Some of us will never cease to stand aghast at the ease with which anxious families are placated with polysyllabic reverberations. This pregnable quality of human nature, the awe of the unknown, is seized upon by many a practitioner of many patients and fewer morals, to smooth over a path which would otherwise be too rough in the going.

The conscientious doctor when asked for a diagnosis where none has been reached, will answer, "I don't know." Simple doctor! How far better are some of the following diagnoses which have been oracled by some of the omniscient: "The trouble in this case," says Dr. X., who has been called in as a consultant, "Is something interstitial and time will tell whether the boy will live or die." This in a case of an obscure continued fever. Picture the orientation of the mother when she found that her boy had "something interstitial!" From her countenance it was easy to see that at last she felt as though she knew "where she was at."

Mr. X. goes to Dr. Y. suffering with anginoid pains. He goes to Dr. Y. because of the latter's large practice. Dr. Y. tells him the trouble is a "painful contraction in the chest." A modern Sydenham come to judgment! Mr. X. has at least found out his disease and is easier in mind, while Dr. Y. is easier in pocket, besides having secured by rhetoric the patient's confidence. It is only after many months of ineffectual treatment that Mr. X. seeks other aid, and after a positive Wassermann followed by specific treatment Mr. X is relieved of his "painful contraction in the chest."

Mrs. A. is ill with jaundice, vomiting and distension. Dr. B. is the family physician and must be called. He is a good doctor, surely because all the deceased of that generation have passed away with his assistance. "Dear Dr. B." asked the young medical student in the family, "what is your diagnosis?" "Ah, my lad," answers he wiseacre, "here we have to do with a gastro-hepatic-intestinal affair." The neophyte, though edified, did not understand the diagnosis and inquired further. "It is this way," said the savant, "the vomiting is gastric, the jaundice hepatic, the distension intestinal." Presto, the problem was solved by this wonderful diagnostic acumen!

Mrs. C. has been under observation by Dr. D. for an extended period, the doctor having diagnosed cholelithiasis. Dr. D. being out of town, Dr. E, is called in during the attack. Let it be understood that Dr. E. is a religion among the patients, and they live secure in the knowledge that instead of going to Heaven they will go to him when they die. "Have I gall stones?" asks Mrs. C. of him. "It may be," is the answer, "but on the other hand you may have biliary colic. I will give you something to liquily the bile." A disease in sooth, "biliary colic," and how wonderful is science these days that can give us drugs to liquily bile!

Unfortunate Mr. F. suddenly has an attack of hemiplegia. Doctors on the scene diagnose cerebral thrombosis and some advise venesection. Anxious family gathered in mahogany drawing-room must first have extended consultation, and above all the dictum of Dr. G. Consultation is free, open and in the presence of the family, and Dr. G. strenuously objects to bleeding. "instead we shall give nitrites," says he. "The blood vessels in the brain are contracted and the nitrites will dilate them." His word carries with the family, for naturally they have not read

Leonard Hill's work any more than Dr. G. apparently had done.

All of this and much more that is omitted simply voices a pity,—the pity that the laity naturally cannot be in a position to know more, and a pity that there are among us those who will so deliberately use words to cloak ignorance. "Something interstitial," "gastro-hepatic-intestinal affair," "clarify bile," "painful contraction in the chest," dilating cranial vessels with nitrites—all these crop out in their absurdity and savor of Dr. Munyon more than any one else. For our own self-respect let us talk truth and common sense to our patients lest our cloak be torn off, and let us wage as relentless a war on the untruth inside the profession as on that without. Fortunately the users of these methods are really few, but unfortunately their influence is frequently great. Were they anything but a minority, we should as a body be truly suffering from "something interstitial."—Cal. State Journal. H. I. W.

SHOULD WE PRESCRIBE IODIDE OF POTASH IN HYPERTENSION.

By Alfred Martinet.

(Translated from La Presse Medical, Nov. 11th.)

This question is more open to discussion than is generally believed.

It has become a common-place to prescribe the iodides in hypertension in virtue of this traditional equation, which has almost become reflex: Arterial hypertension equals arterio-sclerosis; ergo iodide of potash. The equation is doubly false, for, in the first place, of all possible causes of arterial hypertension, arterio-sclerosis is not certainly the most frequent, and, in the second place, we can affirm with yet greater certainty, that the cases of arterio sclerosis on which iodide of potash has a favorable action are far less numerous than those in which it is of no benefit.

* * *

The administration of the iodides in hypertension rests on three pharmico-dynamic affirmations: 1st, that the iodides are vasodilators; 2d, that the iodides diminish the viscosity of the blood; 3rd, that, in consequence, they lower the arterial tension.

Are iodides vaso-dilators? No experimental demonstration has ever been brought forward to prove this, so far as we know. It is a purely hypothetical idea. Experimenters have established a priori, the necessary relation between the diminution of arterial pressure and vaso-dilatation, and since they are found temporarily combined in some cases of low arterial pressure, they have been led to conclude that a vaso-dilatation is present. Yet as one of them, Professor Pouchet, confesses, this vaso-dilatation is far from certain. "At the moment of the minimum of tension," he writes, "far from being able to say that there is a vaso-dilatation, there exists on the contrary a vaso-constriction, as is proved by the fact that, if an incision is made into the ear of a dog that has been injected with iodine, at the very moment when pressure is lowest a far smaller quantity of blood is obtained than from an incision made under the same conditions before the injection."

Do the iodides diminish viscosity? Following Pouiseuille and Guebler, writers, one after another, have repeated the statement that the iodides reduce viscosity. As a matter of fact positive investigations on this subject have been up to this time few and contradictory, Muller et Inada, Boveri, Landini and Ceroni, have indeed found a marked hypo-viscocity, but Dieterman, Lindman, and Adam have not obtained results that were clear, nor at all constant. Adam, experimenting on thirty subjects, found hypo-viscosity in only six cases, and with doses of iodide of potash, exceeding three grams. It is probable, as we shall see in the course of this article, that these results depend on the permeability of the kidney. If, starting with these premises, we go on to a conclusion, we find that if the experimental uncertainty, before which we stand, relaive to vaso-dilatation and viscos ity, does not permit us to draw a logical conclusion as to the action of the iodides in reducing blood pressure, direct observations still less authorize us to draw a conclusion a posteriori. The experimental results are absolutely contradictory. In the course of intravenous injections, which further more do not correspond at all to therapeutic practice, though one finds a temporary phase of hypotension, hypertension appears at another phase.

Experimentally the employment of therapeutic doses by mouth does not ex-

ercise any manifest effect on the blood pressure.

This very succinct, but faithful statement of the case shows that the experimental supports for the use of the iodides in reducing blood pressure are most precarious.

* * *

As to the clinical results, which constitute after all the court of last appeal, can we say that these at least furnish a clear demonstration of the value of the iodide.

Their favorable action has appeared indisputable in aortitis and especially in arotic dilatation, where the iodides have been prescribed either alone or more often combined with mercury. These results are probably for the most part due to an antisyphilitic action; they are besides extremely inconstant and, as proof of this, we need only cite the numerous methods, old and new, that are daily brought forward for the cure of these affections.

In other cases, and more particularly in arterio-sclerosis of the heart and kidneys, most of the students of heart disease have followed the path of Huchard, who, after having at the beginning of his career, relying on his books and his faith, prescribed and praised the iodides as reducing blood pressure, has gradually reached the point of circumscribing them, though with regret, to a very limited class of cases. He draws attention at every opportunity to the abuse of iodine medication, which is always useless at the beginning of the first period of arterio-scleosis (pre-sclerotic) harmful in the third and fourth stages (with cardiac dilatation), applicable only at the end of the firs phase and during the course of the second (cardio arterial).

Such, in short, is the actual state of this highly practical question. The systematic study of the arterial tension and of the viscosity of the blood may enable us to throw some light on it.

* * *

A series of estimations made with reference to determining these two points, enable us in fact to say:

1st. That arterial hypertension does not always accompany hyperviscosity of the blood, but that precisely to the contrary, in the most serious cases, where the hyperension is very great, the renal functions most affected, hemorrhages most frequent, hypo-viscosity, probably due to hydremia is the rule, as we have shown in a previous article.

2d. That this inversion of the normal relation of tension and viscosity is due to renal obstruction, in these cases the aggravation of the pathological conditions, and more particularly the dangerous elevation of the blood pressure, is accompanied by diminution in viscosity.

Now, since we have long suspected the harmful effect of the iodides in the advanced vascular scleroses,—it has been impossible up to the present time to get anything better than presumptions on this subject, two observations that we have made, seem to us to constitute the beginning of a proof, and to show the harm done by the iodides, as it were, in flagrante delicto.

We find in fact that (most probably owing to the action of the iodides, since the general hygenic regime has remained practically constant) in the first case after administering iodides there has developed albuminuria, with elevation of blood pressure, diminution of he viscosity, hemorrhagic accidents, in brief, a manifest general aggravation of the morbid state, and that on the other hand, after discontinuing the iodide (the patient being put on a strict milk diet and chloride of calcium), the albuminuria has diminished, while at the same time the blood pressure has grown lower, the viscosity higher, and the hemorrhages have come to a stop. In the second case this alteration of phases of aggravation, accompanied by hemorrhages, hypertension, hypo-viscosity, with phases of improvement shown by the cessation of the hemorrhages, lowering of blood pressure, and elevation of the viscosity, has coincided so clearly with the cessation and recommencement of the iodide medication that it is difficult to look upon it as a simple coincidence.

In these observations, results, probably provoked in great part by the administration of the iodide, have been relatively benign, but, none the less, they point out to us the formidable dangers that may be incurred through such treatment, in patients that are seriously menaced by uremia and cerebral hemorrhage.

Do we mean to say that the administration of iodide of potash should be completely banished from the treatment of cardac affections That would be greatly

to over-step the limit of our conclusions. We believe, on the contrary that it may render appreciable services, under many circumstances which we will not attempt here to define.

But we may say that iodide of potash is contraindicated in all cases of hypertension accompanying marked hypo-viscosity, and clincally in all those in which the reserve power of the heart or of the kidney is absent or slight, in all those in which renal insufficiency is evident and a fortiori, in all those in which the homerrhagic tendency is manifest.

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FRESH TINCTURE OF IODINE THE MOST POTENT ANTISEPTIC.

As the result of recent discoveries made possible through animal experimentation the generally accepted opinion concerning the value and mode of action of antiseptics has undergone radical change. In the opinion of the writer the most convincing series of experiments yet performed were those of Walther. In making these tests, the skin, omentum and mesentery of live rabbits were utilized. The first step in the performance of these experiments was to fill a dish with the antiseptic solution to be tested, a small flap of the animal tissue was then laid upon the dish in such a manner as to pouch into the fluid, within this pouch was placed a small quantity of broth culture which was teeming with bacteria. By this method he demonstrated that the antiseptic in ordinary use such as carbolic acid and bichloride of mercury had practically no effect upon the bacteria even after long periods of exposure. As a further test of their efficiency celloidin capsules were used instead of animal membrane, in which case the organisms were not affected, even after twenty-four hours immersion. When the fresh tincture of iodine was tested according to method just described it was found that in less than seven minutes it had sterilized the skin down through its deepest layers, and in twenty-five minutes it sterilized the bacterial contents of a celloidin capsule.

These experiments were founded upon the fact that, inasmuch as bacteria are not always found free on the body or wounded surfaces, but also in the deeper layers of the skin and other tissues, furthermore since many of the bacteria themselves are intracellular, any antiseptic solution to be of any value must possess primarily great penetrating power. In the light of the foregoing facts the writer is convinced that the fresh tincture of iodine is the most potent antiseptic discovered and the only one, which when used in sufficient strength to destroy germ life, does not interfere with the vitality of the tissue. While it has been used by a few surgeons for many years, it is only within the past three or four years that surgeons in general have come to fully appreciate its value as a surgical antiseptic. Its special value as a disinfectant of the skin was first brought to the notice of the profesion by an article from the pen of Grossich in 1908. The major part of this article was devoted to a resume of its value as an application in the treatment of all emergency wounds of the hands and feet of the laboring class. In wounds of this kind it has proven to be most efficient in the prevention of tetanus, when applied in accordance with the following technic: First the wound is thoroughly dried as microscopical studies have shown that the tincture of iodine is absorbed best by the dry skin. Second, the wounded area and the skin immediately around is swabbed with cotton soaked with the iodine, being very careful to remove all excess, especially when cavities are being treated. Third, as soon as wound becomes thoroughly dry it is covered with a piece of sterile gauze which is retained in place by a properly applied bandage. When applied in this way it not only destroys the germs present but stimulates phagocytosis thereby acting as nature's antiseptic. The fresh tincture of iodine, like all other powerful agents for good, must be used with extreme caution. Personally I have neither observed nor experienced any toxic effects from its use.

The preliminary washing and scrubbing of wounds so much in vogue a few years

ago and still adhered to by a few surgeons, is not only unnecessary but positively harmful. By he employment of such methods the pathogenic germs are disseminated, the tissues macerated, resistance to infection lowered and the absorption of the antiseptic solution prevented. —Kentucky Medical Journal.

GEORGIA MEDICAL SOCIETY
Savannah, Georgia.

The regular meeting of the Georgia Medical Society was held on Tuesday, 26th, 9 P. M., at the De Soto Hotel.

Papers presented as follows:

"Demonstration of the Pachon Sphygmocillometer, and discussion of its use in the determination of blood pressure."—By Dr. T. P. Waring.

"The value of the determination of blood pressure in examinations for insurance."—By Dr. Craig Barrow.

"Demonstration of two easy methods of observing spirochaetea.

A. By means of the ultramicroscope.

B. By means of India ink preparations."—By Dr. V. H. Bassett.

This was the last meeting of this Society prior to the Annual Meeting, which will be held on the second Tuesday night in January, 1912.

Bartow County Medical Society.

Regular meeting of The Bartow County Medical Society held on December 1, 1911. The following were elected officers for the year 1912.

President, Dr. A. T. Calhoun.

Vice-President, Dr. T. Lowry.

Sect. and Treas., Dr. H. E. Felton.

Censores, Drs. A. B. Green and W. C. Griffin.

Delegate to State Association, Dr. F. Lowry; alternate, Dr. A. T. Calhoun.

Association Notes.

Owing to continued ill health, Dr. J. P. Atkinson, of Milledgeville, has resigned as Councillor of the Sixth District, and Dr. J. A. Combs, of Locust Grove, has been appointed as his successor.

At the last meeting of the Council it was decided to appoint a Vice-Councillor in each district to assist the Councillor in his work. This will be done by the President this month.

It is earnestly requested that all County Societies hold their Annual Meetings at once and that the newly elected Secretaries notify the State Secretary of the changes in officers. This should be done at once so that the proper correction may be made.

It is anticipated that an organization of County Secretaries will be effected at the next meeting of the State Association.

County Secretaries are requested to forward to the Journal all news items of a medical nature that will be of interest to the members of the Association.

Atlanta Clinical Laboratory.

Drs. C. W. Gould and A. H. Bruce, of Atlanta, have opened a clinical laboratory in the Candler Building, for the microscopical examinaions of substances sent them by physicians.

A DISTINCTIVE PIECE OF LITERATURE.

"Here is something different." This is apt to be the first thought of the physician upon breaking the wrapper of Parke, Davis & Co.'s. new brochure on bacterial vaccines and tuberculins. And the external appearance of the book is in no wise misleading. The "difference" applies to the printed page as well as to the handsome cover in artistically blended browns and gold. The brochure contains forty-eight pages in addition to the cover and thirteen full-page engravings in colors.

The work is divided into three parts or sections. Some of the subjects considered in the first section are: "What is the Difference Between Bacterial Vaccines (Bacterins), Serums and Toxins?" "How are Bacterial Vaccines Prepared?" "Therapeutic Action of Bacterial Vaccines"; "When Should Serums be Used, and When Bacterial Vaccines?" The second section treats of the origin and nature of the bacterins, the relative merits of "stock" and "autogenous" vaccines, the opsonic index, and the best method of using the bacterins, together with a description of each vaccine, including references to preparation, therapeutics and dose. The third section is devoted to a consideration of the tuberculins, with dilution and dose tables, descriptions and illustrations of the various diagnostic tests, etc.

Briefly stated, the booklet is a concise review of the essential facts relating to bacterial-vaccine therapy, containing precisely what the seeker after this kind of information wants. It is not padded with clinical reports—in fact, it contains none. We understand that Parke, Davis & Co. will be pleased to send a copy of this unique and valuable brochure to any physician requesting it. Address them at their home offices, Detroit, Mich., specifying the "new booklet on bacterial vaccines," and mention this Journal.

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THE TREATMENT OF DIGESTIVE DISTURBANCES BY THE SURGEON *

R. P. Glenn, M.D., Columbus

I have chosen this subject on account of the fact that so many cases of indigestion are overlooked by the general practitioner, which are merely reflex conditions which can often be promptly relieved by surgical measures. Since all of these cases are deviations from the normal, whether they be the result of pathological changes in the digestive tract or a neurosis of physical or mental origin, it will best serve the purpose of this paper to review briefly the normal processes and measures which have a tendency to change them.

We know perfect digestion means that wonderful mechanical and chemical change by which our food becomes a part of our body to furnish repair to the waste parts and power for muscle and mind and nerves. Its stages are each one vital. Prehension as important as defecation; mastication and ensalivation as important as gastric and intestinal digestion. Each gland must perform its function. There must be a sufficient amount of saliva to properly begin starchy digestion and render the food neutral or alkaline; the gastric glands must secrete the right amount of pepsin and hydrochloric acid to begin the digestion of the proteids; the liver, pancreas and intestinal glands must accomplish the most important part of this process by throwing into the canal those complex ferments which complete the chemical changes of the fats, starches and proteids and make ready these foods for final absorption or elimination.

We will first consider the manner of serving foods as affecting digestion. Many of these patients often improve their digestion by having their meals served in a more appetizing way, under more pleasant surroundings. We know the mental condition will affect the flow of saliva. This is especially true of neurotic women. Prehension must not be too rapid for the next step in digestion—mastication. And under prehension, we may not only include the taking of food to the mouth under as pleasant surroundings and in as

* Presented at the meeting of the Medical Association of Georgia.

bright and happy frame of mind as possible, but the choice of foods. This would include the proper amount of the essential, the accessory foods and the relishes.

In its broadest sense then this term would mean a careful selection by the patient of the most nutritious food which would yield the greatest amount of energy with the least amount of digestive effort and to serve this in the most pleasing way under the most delightful surroundings possible. We often do not pay enough attention to these details. We should not overlook the method of cooking the foods also.

There is no part of digestion under our control so important as mastication. The complete mechanical subdivision of all particles of food is absolutely essential to the most rapid and perfect digestion.

Next in importance in the voluntary part of digestion to mastication comes ensalivation. Of course this is really an involuntary act, yet the free use of liquids during the meal will prevent proper ensalivation. This will prevent the conversion of the starches into glucose and will allow the food to go into the stomach in an acid rather than a neutral or alkaline condition, which will retard the secretion of the gastric ferments and the sugar and starches will ferment and cause gas.

Deglutition should be entirely unconscious, yet often patients are conscious of every act and have to assist with a swallow of water.

Gastric digestion should take place in such way that the patient is unconscious of the process, and intestinal digestion and defecation should take place in such an easy manner that the patient should not have the slightest inconvenience. Yet how few patients enjoy such health.

Therefore when a patient comes in and says, "Doctor, I have indigestion," we at once try to arrive at the cause. Does he eat a well balanced ration; does he eat it in unpleasant surroundings in great haste; does he wash his food down with water, tea, milk or coffee and not wait until the meal is finished before taking any liquids; are his teeth in good condition or are they nothing but decayed shells which act as culture tubes for the lodgment of all kinds of bacteria, pouring their contents into the intestinal tract as a prolific source of fermentation and putrefaction of food; do his stools show undigested starch, meats or fats, or do they show any of the intestinal parasites; do his lungs show any tubercular deposits; do his kidneys show any pathological changes; are there any changes in the circulatory system or nervous system? Is he using drugs or alcohol; is there any specific history? If we can answer all of these questions we now come to a consideration of pathological conditions which are really to be treated by the surgeon.

The patients who are suffering from digestive disturbances arising from morbid changes all present some symptoms in common. Headache, backache, loss of appetite, pain on taking food or on its passage into the small or large intestines, a feeling of lassitude and constipation.

We will now take up some of the conditions of the stomach which are often best treated by surgical measures. Gastric ulcer with its proneness to become malignant will often yield to no measure with such promptness and satisfaction as an operation. This is to be done only after a reasonable time has been devoted to medical treatment. Symptoms persisting would be the indication for surgical intervention. Surgery has perhaps no more brilliant field than in treating gastric ulcer and chronic dilatation. These patients begin at once to gain flesh and have perfect freedom from their distressing symptoms. The same can be said of duodenal ulcer.

Next we come to those poor patients who have suffered for years on account of chronic cholocystitis or chololitheasis. I do believe that if there is one class of patients who are especially grateful for recovery, it is this class. If urotropin, olive oil and sodium phosphate do not relieve then the surgeon must be called.

Miss ——— ———, age 30; family history negative. Past history—Five years ago had an acute attack of gangrenous appendicitis. Operated on; slow recovery to normal health. One year later began to have indigestion. Could not eat sweets or starches without great distress. Had sour eructations; persistent headache, backache, nausea. Began to lose weight. Had to live principally on milk and eggs. Bowels hardly ever moved naturally. This lasted about one year, when the appetite became poor. Food would cause severe pain under border of right rib extending back to shoulder blade. Stomach contents negative. Urine negative except for bile salts. Feces showed imperfectly digested starch and meat. Stools were alive with

bacteria and very offensive odor; color of stools varied. Operation for chronic cholocystitis was advised and refused. One year later patient came back after having passed through the hands of several physicians who had advised operation. Cholocystostomy was performed under general anaesthetic. Patient was up and left hospital on tenth day. Gained ten pounds first month. This was done one year ago and patient has gained thirty pounds and has not had the slightest digestive disturbance and eats everything.

The next organ which causes gastric or digestive disturbances is the appendix. From my observation the gall bladder and the appendix are responsible for a large majority of cases of so-called indigestion, and when this is the case their drainage or removal is the only way to secure perfectly satisfactory results. They are essentially surgical conditions at all times, and when the diagnosis is made you are only inviting complications when long delay is advised. I have never seen one operated on too soon, but have seen a few operated on too late.

Mrs. ——— ——— ———; family history negative. Past history—Age 27. Since childhood has had frequent attacks of colic. Could not eat cakes and candy or pickles as other children without bringing on attack of colic. These would last from one hour to a day or more and would occur at intervals of two or three weeks or as many months. Bowels always constipated. Had morbid appetite. Constant pain in right inguinal region. Could not stand erect without pain in this region. Slight indiscretion of diet would increase pain. Never felt well, especially in spring. Stools always very offensive. September 1, 1909, patient ate hearty meal with rich salads. That night had nausea and vomiting. Next morning when patient came under observation, the following condition was present: General abdominal pain, nausea, pulse 100, temperature 102 F., respiration 20, face flushed, abdominal muscles rigid, tenderness over entire abdomen, but not localized. A diagnosis of an acute recurrence of a chronic form of appendicitis was made and operation was advised. This was refused as patient said this was no worse than many other attacks. The next day pain was localized over McBurney's point—temperature 103, pulse 110, respiration 24. On the third day the pain suddenly ceased. The family was then told an operation was imperative. Operation under ether anaesthetic revealed a ruptured gangrenous appendix with fecal concretion at point of eruption. With slight adhesions, appendix was removed and drainage used. Recovery was slow but complete. Patient now weighs twenty pounds more than ever before and does not have the least digestive disturbance. This is but one of many such cases.

We now come to that large class of patients who often complain more from the digestive disturbances which accompany the condition than of the diseases themselves. I refer to gynecological cases. We are all familiar with the nervous and digestive symptoms which accompany these and how rapidly they disappear after the cause is removed.

The points which I wish to emphasize are these: Careful selection of foods; thorough mastication; removal of all pathological conditions as a means to cure patients of indigestion and restore them to health in the shortest time possible.

REPORT OF CASES TREATED WITH TUBERCULIN *

J. O. Baker, M.D., Savannah

CASE I—"Tubercular Orchitis."—White, male, married, aged 37. Trouble started in right gland December, 1907. Patient was sent to hospital for operation March, 1908, at Waycross. Gland removed, patient remained three weeks at the hospital. After the operation, there was left a discharging sinus. About April 15th the left gland became involved. In June the patient was ordered to return to the hospital, but did not follow this advice. In July of the same year he consulted Dr. White about the advisability of an operation. As I was attending the patient's family at that time Dr. White asked me to see the case with him. We decided to try Tuberculin B. E., also an iodoform emulsion, which was injected into the discharging sinus.

We started the use of tuberculin about November, 1908. The sinus became very much inflamed, the lumen became occluded, and a pus sac was formed; this sac was opened by free incision and packed with iodosyl gauze. The preparation of tuberculin used at that time was the emulsion sent out by the State Board of Health.

* Presented at meeting of First District Medical Society, Savannah.

The dose sent out by the State Board of Health seemed to have been too large, as there was always an elevation of temperature the next day, accompanied by aching pains in the back and joints, etc. Consequently we had to give much smaller doses than was recommended by the State Board, and even then we had an elevation of temperature and similar symptoms as stated above.

On February 22, 1909, we began the combination of Tuberculins B. F. & R. T., of each 1-10000 Mg. Patient's weight at that time was 147 pounds. It was through the advice of Dr. E. W. Glidden that I discontinued the use of B. E. and began the use of B. F. & T. R. Compound. The patient seemed to improve rapidly from this time on, weighing 149 pounds on March 22d, and 151 pounds by the first of April.

In December, 1909, gland was pronounced cured, as inflammation and swelling had disappeared, with no pain or any other symptoms to indicate that there existed any further tuberculous condition in the gland, and after a lapse of eighteen months there still remains no return of these symptoms.

CASE II—"Tubercular Hip."—White, female, married, age 28, residence Mt. Vernon, Ga. Patient complaining of pain in the hip, beginning in January 1909, which rapidly became worse until about the first week in February, 1909, when she became unable to walk. Patient was brought to the Park View Sanitarium by Dr. Morrison, of Mt. Vernon, to Dr. White. Date of her entrance to the sanitarium, March, 1909. The use of von Pirquet skin test with positive reaction, and the finding of tubercle bacilli in the blood, by Dr. Warfield, plus the local symptoms, justified the diagnosis of tubercular hip disease. Dr. White allowed me to use tuberculin in connection with the treatment he was giving. This was greatly appreciated, as it was the first joint case in which I had the opportunity of observing the effects of tuberculin treatment.

I began with 1.10,000 Mg. each of B. F. & T. R., gradually increasing the same to 5-10000 of each. The other treatment consisted of tonics, syrup of iodid of iron, etc. Dr. White put the patient to bed with the joint at rest in extension. This treatment was continued for about eight weeks. By this time the patient was able to be up on crutches and returned to her home at Mt. Vernon. Her family physician, Dr. Morrison, kept up the treatment for six months, when the patient was able to discard crutches and appeared to be cured. Dr. Morrison tells me that she is now in perfect health, twenty-one months after treatment was discontinued.

CASE III—"Tubercular Ankle."—White, female, single, age 40. Patient had been suffering from chronic tuberculosis since 1902. At that time, her weight was 101 pounds. After seven years of the ordinary tonic treatment with fresh air, diet, etc., patient weighed 107 pounds, and seemed to be getting on fairly well, until suddenly about the middle of January, 1909, she developed pleurisy with some effusion on the left side, and a looming up of the old tubercular lesions in the apices of both lungs. Upon aspiration, a small amount of bloody fluid was removed from the left pleural cavity. The patient suffered considerably and was confined to the hospital for fifteen weeks. After returning home patient developed a tubercular ankle. This was about the first week in May, 1909. At this time the patient was sleeping outdoors on the porch. The ankle gave considerable discomfort with swelling, ecchymotic spots around the ankle. At first, I applied with tight bandaging. After reasonable length of time, and the condition remaining the same, I began the use of Bier's Hyperemia twice daily, beginning with one-half hour the first three days, and then three-quarters of an hour. At the end of the week I was giving an hour's treatment twice daily (patient having learned to apply bandage herself). I also gave Tuberculin B. F. & T. R. every fifth day, and in a very short time patient was able to be about the house on crutches. She continued the use of crutches for about four months, after which time she was able to go about with very little pain, without the use of crutches. Treatment was continued for about eight months. About twelve months has elapsed since discontinuance of the treatment without return of symptoms. Patient seems to have a perfect joint, and when last seen at the office weighed 117 pounds.

CASE IV—"Tubercular Cystitis."—White, female, widow, age 52. Born in Scotland; husband died of tuberculosis in 1897. Patient was referred to me for tuberculin treatment by Drs. White and Righton.

History—Patient suffered from cystitis in July, 1895, which continued for years. Patient was operated on in 1896 and again in 1897 and appeared to be cured for about four years. Cystitis developed again in 1901, from which time to July, 1909, patient had frequent hemorrhages from the bladder, a great deal of pain and frequent micturition, having to get up every twenty or thirty minutes during the night, and stated that at frequent intervals during the day the pain would be quite severe and the only relief that she could get would be to apply a hot water bottle to the parts, and that after a time she would be relieved and could attend to her duties until another paroxysm occurred, when the same performance would have to be repeated. On July 7, 1909, she consulted Drs. White and Righton. A cystoscopic examination was made and an ulcer was found near the neck of the bladder.

Drs. Righton and Bassett made a bacteriological examination of urine and tubercle bacilli were found. Dr. Righton referred patient to me on July 21, 1909, for tuberculin treatment. I began the treatment with B. F. & T. R. 1-10000 Mg. of each, gradually increasing the dose to 1-1000 Mg., then gradually decreasing back to 2-10000 Mg. I continued at that dose until Dr. Righton, who was giving local treatment, pronounced the ulcer in the bladder healed, and the patient cured.

The remarkable part of this case was that after the fifth injection of tuberculin, plus the local treatment by Dr. Righton, the patient was able to sleep comfortably all night, without having once to get up.

THE RATIONELLE OF ALL TREATMENT APPLIED TO PULMONARY TUBERCULOSIS *

J. Monroe Anderson, M.D., Pinedale

After an intelligent man has spent a few years dealing with the ails of the human race he learns that ruling out surgery, which is almost an exact science, and a few specifics, including the paid relievers, all the balance of medication is about as far removed from an exact science as it is possible for anything to be.

There is a line of treatment, however, which we are pleased to call the "Rationelle of all Treatment," that is suited to absolutely all non-surgical diseases and in a somewhat less degree to surgery itself. This treatment consists of two processes, viz. elimination and assimilation, and whenever these can be well established and maintained by far the majority of all diseases will disappear and the patient will return to the normal condition. While it is sometimes necessary to use some powerful drug to establish elimination, this is only true when the disease is of sudden onset and severe in its ravages upon the vital forces. In most cases it is best that the elimination be brought about and maintained in a natural way and without the use of harmful drugs. The most rational and efficient way of maintaining the eliminative processes is by the free use of plain water. When pure water is given in a sufficient quantity it is the rarest thing in the world for any of the emunctories of the body to be closed long enough to be detrimental to the patient. I am sure that no one will attempt to deny that practically all drugs are to a more or less degree harmful to the human body, while water is not.

When a patient becomes sick, then, it is a foregone conclusion that there is in the body some material which is producing this illness and without which the body will in a short time return to the normal state. It behooves us, therefore, as physicians, to remove this poisonous material, not always in the quickest way, but in a manner which will be the least harmful to the patient. We know first that any drug or material which would be harmful to a person in health will also, in a more marked degree, be harmful to one who is sick, and while there are times when the nature of the disease demands that in order to meet an emergency we must ignore this fact, we should always remember that in Nature's inexhaustible supply of "AQUA PURA" we have a remedy which is safe, sure and sensible.

When we come to the second of the two processes which are necessary for the restoration and maintenance of health we find again that Nature furnishes us with the clue to the situation. Assimilation, which is best carried on in a state of health by obeying the laws of Nature as to quality, quantity and time of taking food, is best restored in case of sickness by a return to these laws from which we have digressed and a strict adherence thereto. Hence, we find that the form of

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food which is supplied to all animal life at a time when the animal is too young to select its own food, viz.: eggs and milk, are the best of all, and should form the basis of all food whenever it is necessary to restore lost assimilation. These two products in the raw state, as they are furnished by Nature will do more to solve the diet question than all of the artificial —man—produced foods in all the world.

Going still further, if we keep our eye on Mother Nature we will gather valuable information as to our manner of living. Take for example those animals of the forest that have never been domesticated, except in the case of the smaller ones which have to burrow into the ground for protection, Nature has provided no way by which it is possible for these animals to lessen the supply of oxygen as it is found in atmospheric air. Nature has provided in the thick jungle a protection from the rain, storm and cold, but not to shut out the air; and yet man, supposed to be the most sensible of all animals, builds himself a box, inhabits the same, limiting himself in oxygen, disobeying one of the most important laws of Nature and dies of tuberculosis.

Regarding some of the less important details of our manner of living, we find also that rest and sleep are very necessary in the maintenance of health, and again we find that almost invariably the lower animal rests a good portion of the day, especially after a hearty meal, and that they retire early at night and rise early in the morning. Why it is that man, in all his wisdom, will disobey these great fundamental laws of Nature, when he knows full well that it means trouble of the worst kind for himself, is absolutely beyond all explanation. The only explanation we can possibly offer is that because his deeds are evil he loves darkness better than light, and because he loves his palate better than he does his stomach, his health and his life, he orders a clubhouse sandwich and a bottle of beer instead of a glass of milk and two raw eggs.

To those who have followed me in this short paper it will appear that the "Rationelle of All Treatment," as outlined, is nothing more nor less than the recognized treatment of tuberculosis, especially the pulmonary type.

In the November issue of The Journal of Outdoor Life there appeared a statement from no less an authority than A. T. Cabbot, of Boston, to this effect: "There is no known substance which, when taken into the system, either through the mouth or by injection, will cure or even greatly benefit tuberculosis." This statement, coming in the midst of all the tuberculin and other specific medication advice, should at least throw a damper on the enthusiasm of serum advocates, especially when it is an undeniable fact that all of these specific medications are attended with more or less danger to the patient.

Don't misunderstand me, please, and as some of my friends have already done, put me down in the class of Therapeutic Nihilists. No man is a stronger advocate of the pain-relievers and those few specifics than I. No man is further from discouraging legitimate experimentation than I. We at Pine Mountain do use tuberculin in extremely rare cases, solely as an experiment. It is always explained to the patient that it is an experiment and is only used after the patient has been given the full benefit of the rational treatment, without success.

The intention of this paper, then, is, if possible, to discourage the indiscriminate and dangerous experimentation along this line. To give patients suffering from the most dreaded of all diseases the best possible chance of recovery and not to subject them to a line of experimentation which is, as yet, in its infancy, and unless handled with the utmost care is very liable to do incalculable harm.

SOME DIAGNOSTIC POINTS IN PELLAGRA

Geo. M. Niles, M.D., Atlanta

Professor of Therapeutics and Gastroenterology, Atlanta School of Medicine; Gastroenterologist to the Tabernacle Infirmary; Physician to the Tabernacle Infirmary Annex (for Pellagra).

At this time, while pellagra is almost epidemic in the South, causing in some quarters a feeling akin to panic, it might be well to review some of the more salient diagnostic features of this disease.

Within the last six or more months there have come under my notice quite a number of cases erroneously diagnosed pellagra, where a thoughtful analysis of the symptoms presented would have saved the patients and their friends much needless worry and expense, to say nothing of valuable time lost while the real trouble was being mistreated.

Pellagra as a pathologic entity presents four aspects, no one of which would warrant a positive diagnosis. These aspects are gastrointestinal, dermic, nervous and psychic—the last two distinctions being made advisedly.

Nearly all pellagrins give a history of more or less indigestion, dating back in some instances several years. Exceptions to this, however, are many; for I have seen numerous cases claiming to have had very good digestion up to the present illness.

On the other hand, some there are who were chronic dyspeptics long before the onset of the pellagra, and the present digestive symptoms run along the previous lines, only in an aggravated form.

As a general rule the first digestive troubles consist of an intermittent and apparently causeless diarrhea, which is probably of central origin and compensatory in its character.

In addition to this there are sensations of weight and discomfort after eating, flatulence, and a vague sense of ill being in the stomach and intestines. These patients complain of "bilious attacks," of "cholera morbus," or even of "acute indigestion," that overworked medical term.

Test meals in my cases have shown an absence or diminution of free hydrochloric acid in eighty per cent., while in about seventy per cent. there was a chornic catarrhal condition of the gastric mucosa.

The early compensatory diarrhea may merge into a more or less acute enteritis, colitis or proctitis, producing stools frothy, sometimes bloody, and of an exceedingly foul odor—this odor being almost characteristic of the disease.

I have noted a tendency to involuntary stools rather early, and out of proportion to the apparent severity of the diarrhea. A few months ago I saw a young widow, whose most bitter complaint was her lack of control over the sphincters, with frequent soiling of her linen before she could get to the toilet.

Vomiting does not generally occur early in this disease and, when present, denotes either a hyperesthesia of the stomach or an acute gastritis—this gastritis constituting only a part of the inflamed area often extending from the lips to the anus.

On the whole I might say that the digestive symptoms are not materially unlike a gastroenteritis, with the several exceptions I have noted.

The dermic manifestations are more striking and in many are pathognomonic, for the name pellagra means "rough skin."

Often the first noticeable symptoms consist of an erethema of the hands and exposed parts of the forearms. It resembles a plain sunburn at first, but later on assumes a dry, baked appearance, being rough and harsh to the touch. This may also show symmetrically on the feet and legs, and may appear in irregular patches about on the face and body; though some severe cases under my observation have shown the erethema only on the hands and feet.

After a time this erethema may deepen into a cracked and raw surface, or it may assume a dusky hue, with the palmar and plantar surfaces a smutty, dingy black.

In the African race this erethema cannot show this variation in color, unless in a bright mulatto, the affected areas exhibiting a dull, lack-luster aspect.

Along with the erethma there is in the vast majority of the sufferers a sore tongue and mouth, this soreness in severe cases showing also in the anus and vagina. The sore tongue of pellagra is rather distinctive, being a bright red, but hardly the scarlet red of scarlatina, and showing a surface partly or all denuded of epithelium. There are frequent aphthous spots under the tongue and about in the buccal cavity, these being so painful that it is difficult for the invalid to take nourishment of the blandist sort. The buccal inflammation occasionally extends to the esophagus, while the anal and rectal membranes, too, are irritated.

The dermatitis of pellagra may dry up, peeling off in flakes, or it may be desquamated in branny scales. Not infrequently there seems to be some surface infection resulting in numerous small furuncles.

It is worthy of note that this erethematous surface is highly susceptible to the sun's rays, or even bright light, easily reddening up again after seeming recovery.

Pellagra is but little like eczema, and should not be confounded with it.

There are certain manifestations of neuritis in pellagra that I have never observed in any other malady. The intense burning of the tongue and lips, the burning of the feet and hands, the aching, shooting pains, while the temperature is normal, simulating the aching of high fever—

these are necessarily indications of a central irritation, manifested in the terminal nerve filaments

I have had several cases, whose aching limbs and burning feet, after apparent convalescence was established, gave me more trouble than the management of all the rest of the symptoms. This burning does not subside with the erethema, nor does the aching depart with the gastrointestinal disturbance, but either or both remain indefinitely to plague the patient and physician.

It is perhaps in its psychic point of view that pellagra presents the gravest sociologic problem, as well as the most bizarre appearance. When we recall that, according to different authorities, as adduced by Dr. Babcock, of Columbia, from four to ten per cent. of pellagrins become insane, we can understand the significance of these psychic deviations to the alienists, the sanitarians and the publicists.

I have specially noted in the early stages a "greater moral impressionability," as expressed by Lombroso. That "moving equilibrium," as it is called by Spencer, seems to be jarred awry, and trivial incidents exert more weight than formerly.

In a case I had two years ago, a man of family, one of the first symptoms noted was his impatience and irritability at the playful antics of his children.

This psychic perversion may vary from mild to maniacal, from acute to chronic. The acute is rarely seen except in alcoholic pellagrins, though some have been reported where the insanity suddenly burst forth from a state of apparent health. This I have never observed in my own experience.

The purely mental symptoms usually come on later in the disease, and the picture is that of inertia, dementia, quiet mania or chronic melancholia.

The best description I have at hand is by Regis, and is quoted by Dr. Babcock in a recent paper: "It is recognized that the most common form of psychosis in pellagra is mental confusion with melancholy, or dreamy delirium. This occurs more or less marked in most of the cases. It is manifested by an inertia, a passivity, an indifference, a considerable torpor; by insomnia, hallucinations often terrifying, both of sight and hearing; by delirious conceptions, with fixed ideas of hopelessness, of damnation, of fear, anxiety, persecution, poisoning, of possession of devils and witches, of refusal of food, and so marked a tendency to suicide, and to suicide by drowning that Strombio gave it the name hydromania. This melancholy depression, which can reach in certain cases even to stupor, is always based upon a foundation of obtusion, of intellectual hebetude, and of considerable general debility, which becomes permanent and terminates by degrees in dementia, in proportion as the pellagrous cachexia makes new progress. It is accompanied sometimes by a polyneuritis. The mental confusion of pellagrins can, in place of changing directly into dementia ,turn to a chronic mental confusion."

The foregoing observations do not claim to cover the whole diagnostic field of this protean malady, but I am confident they will prevent some mistakes, if considered in their entirety. Though many true cases of pellagra, like other diseases, do not present a classical grouping of symptoms, I would urge that at least **two** of the four factors I have just discussed should be present before making a diagnosis; and three would be preferable.

It is of course always easier to make diagnoses "on paper" than in practice, and to aid in the placing of some of these border-line cases in their proper category this short paper is offered.

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"POTPOURRI" *

Dr. E. C. Cartledge, Atlanta

One of my own cases recently was very interesting. It was a leukemia attended with a distressingly painful priapism. He must have gained more than twenty pounds in a month and seems clinically cured and is at his regular work now since three months. He was confined to bed several weeks before I saw him, was very anemic and his white blood cells at one time ran 480,000, a degree of leucocytosis unsual, 7,000 being a fair normal count. his red blood cells being the same as white.

X-ray exposure is offered us by the profession as best remedy for leukemia. My X-ray is not portable and the patient was unable to leave his bed for my office. Besides the X-ray doesn't appeal to me at all, in being purely empirical and not approaching the cause of trouble, being only

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palliative, and I think none of us should be willing to give up quickly, or ever, in hunting the unknown causes of pernicious anemias, rheumatisms, leukemia or else. And so in this leukemia I cast about to hunt for every possible source of departure from health and there were present bad teeth and a dirty mouth and history of faulty digestive tract, and an ulcerated lower rectum with internal piles were found; so I gave attention to these (first) with proper mouth cleansing, until he could get to a dentist. (Second) dietetic instructions in what, when, how much, and how to eat and drink. (Third) lower bowel was given nightly normal saline enemas followed by suppository of ichthyol iodine and phenol in cacao butter. In these three directions, by mouth, intestinal canal and by rectum, I sought to get rid of that part of foul infection. Twice or three times I gave him free purgations weekly with magnesium sulphate and for his extreme pain from priapism, and absolute sleeplessness, I added morphine and belladonna to his first few suppositories twice daily, having first failed to accomplish relief or rest by doses of sixteen grains each of chloral and bromide and one-eighth grain each of extracts hyoscyamus and cannabis indica. Locally I may have gotten some relief help by wrapping priapism with continuous moist dressing of alum acetate under oiled silk, (which dressing, by the way, will allow good-all-night-sleep in your circumcisions or painful chordees). To the perineum I applied an ointment of mercury, ichthyol and iodine with the idea of hastening the absorption of any lymph nodes pressing upon any penile blood or nerve supply which interfered with the return blood from that organ. After I had tried to meet all the indications discoverable toward direct and localized diseased conditions, I thought it remained to give him internally some systemic tonic to his general glandular, secretory system. The Rx. was mercuric chloride grain 1-16; liq. potassium arsenite gtt. **111** and potassium iodide gr. x. t.i.d., and I did not upset digestion by giving it after meals, but I haved his stomach by giving it in sufficient water an hour or two before meals. The patient convinced me, or satisfied me, that he had never had syphilis, but I regretted very much that I did not have Dr. Paullin try a Wasserman on him when I read a couple of days afterward in Osler's System of Practice that tertiary syphilis can simulate perfectly a leukemia as it can so many other diseases. I should have mentioned, though I am trying to be as brief as possible, that this man was forty years old, had had typhoid fever and spleen filled him up like an advanced pregnancy, two inches below the umbilicus and past mid line.

Believing there is no syphilis element in the case the after-thought is: Treat the patient when no cure or treatment is known for the disease; treat the patient always anyway. It may be shown some day that pernicious anemia, leukemia, or other obscure diseases, may be traced to specific bacterial cultures present in the intestinal tract—to their absorption. Blood and spleen appearances remain much the same now as when I saw him three and one-half months ago, but the fact of general improvement and his fever record of 99 to 101 degrees daily for twelve days before I saw him, coming and remaining normal suggests that the treatment may have been properly directed.

I once attended to a Colles fracture in an old lady. After sufficient lapse of time and some, the wrist and entire hand remained straight, stiff and painful. My distress and helplessness were relieved when suddenly the other wrist became likewise painful, stiff and swollen, revealing to me that it was a rheumatic process and not the fracture which I must take care of, and since that good day I have often seen the same disposition attend injuries, especially to the lower extremities, restricting the usual amount of physical activity; or in those predisposed; and so, a routine part of my treatment of such injuries is early free saline purgation and a limited diet, as well as those physical measures which aid in a restitution to normal.

I believe that in the sphygmomanometer, for determining the pulse tension, we have an instrument that should be referred to as often, perhaps, as the clinical thermometer. I think the pulse tension may be more, or as much at least, of value as the pulse rate. One of a type of cases is a patient male, 23 years, pulse tension being 150 M. M., rate 80 per minute, and normal temperature. Tenderness about liver and under right shoulder blade was slight, and no other symptoms, and I would have considered his condition trivial, except for his arterial hyper-ten-

sion of 150 M. M. mercury; 110 or 120 being about right for him. So here was the only symptom of his toxemia. There is no question that the pulse tension shows an intoxication smaller in degree than would be revealed by fever or any other evidence. A case of advanced pregnancy had fast pulse. I naturally thought it was reflex from stomach, so common, but it remained fast without variableness after correction of such possibilities. Examination of kidney excretion showed nothing wrong. So I esteemed it one of those occasional cases of natural inherent fast pulse, which I have seen run in families, so to speak, father and two small children having such fast pulses. After baby came this mother had severe convulsions and suppressed urine. If I had only used my sphygmomanometer in this case I would have found a considerable arterial hypertension and been wise. My repeated experience with these puerperal eclamptic cases-to-be is that the kidney tells you nothing in the face of all orthodoxy. I take my sphygmomanometer with me now like my stethescope and thermometer, and I know it serves me so well where all else fails in early toxemia, short of fever, as well as in the hardened arteries of chronic toxemia. Another great need of my sphygmomanometer was in a case of female, age 65, weight 235 pounds, mixed intoxication, flabby muscles and weak heart of 80 M. M. hypo-tension, albumin in urine and slight coma. My sphygmomanometer only told me as nothing else could what to do for heart and kidney. I would have lost her without my instrument, I think.

We discussed Salvarsan yesterday. We are told syphilis can simulate most any other disease. I'll give you a case peculiar enough to have baffled me for a long time —for over a year. A case of typical hysteria with symptoms towards female ailing or digestive disturbance, so trivial that these were rather settled upon because they are so commonly expected, and I could find no other thorn in the flesh. The hysteria became a mania of such unreasonable caprice. She became so "possessed of a devil." as her erstwhile loving family esteemed, that she was sent to our State asylum for insane for several months. She was in the hands of several doctors for four to six years before I first attended her. Her family were about to return her to Milledgeville, when they agreed to let Dr. Paullin try Wasserman test for syphilis. It was positive. Not a gland or skin blemish gave evidence. Two children showed no stigmata and the only suggestion of syphilis was that her husband was a drinking, improvident man who had left her, and he being a character liable to be so diseased. She had never been conscious of any lesion. The cure was—or relief was—as decided and happy as in any case you could have heard reported. However, I followed up treatment with mercury and potassium iodide.

Why isn't gonococcic vaccine as good in gonorrhoeal pus tubes as it is in gonorrhoeal arthritis? I seem to have found it so in three pus tube cases. Only three cases, but the results were so distinctive and satisfactory that I think they promise much in this class of cases, usually operative. I used Mulford's graduated doses, beginning 50 millions, then serially 100, 200 and 400 millions of dead gonococci. The larger doses in each case were followed by the specific reaction of slight fever, aching, malaise, and the local pelvic symptoms present were accentuated for the time, and the patients complained of being worse. In one case a bloody discharge was established, following some larger injections. Two series of these four graduated doses were sufficient to effect a cure in each of these three cases. Besides the gonococcic vaccine I gave additional local treatment of tampons of ichthyol, iodine and phenol, in glycerine, with the Morton electric static wave current, using this insulated vaginal electrode against the tampon in the vaginal vault. It is not supposed that this electric current has any cataphoric effect or assists in the absorption of these medicaments further than is accomplished in a physical way by the alternating waves of contraction and relaxation, which physically stimulate the flow of blood, and especially lymph in every cellular interspace in this congested region with a correspondingly increased presence of leucocytes and relief of stasis and congestion and inflammation.

We should all know that a small per cent of these gonorrhoeal bilateral pus tubes get well with little or no treatment and bear children. In this connection it is interesting to say that it appears that, as we now have the Wasserman reaction to tell us when there remains the obscure presence of syphilitic infection, so we may a test if any gonorrhoeal nidus of infection remains in doubtful cases of old

gonorrhoea. I think no report of this work has been published, but I think it is Dr. Schultz, of New York City, who has isolated twelve varieties of gonococci and from them made a serum or some form of reaction which has proven quite absolutely dependable, so far, in the hands of Dr. Geo. K. Swinburne, who handles one of the heaviest G. U. clinics in New York City, down at the Good Samaritan Hospital, where I saw 108 cases waited upon the first morning I was there.

In behalf of conservatism I would add that Dr. Swinburne has not operated on enlarged prostate or urethral stricture in a dozen years; and besides his clinic and hospital work he has one of the largest and most select private practices in New York. He uses the lithotrite for stone in bladder. I saw several old perineal sections there in still unrelieved sufferers.

REPORT OF CASES

Dr. H. R. Donaldson

Mr. President and Gentlemen of the Society: I wish to report two cases which I operated during the past year that are in a way unusual, and I trust will be of interest. I shall not attempt in this paper to give a history of the operations involved, nor compare the different operations for the relief of the conditions found, but will be content to briefly outline the cases as they were presented, the operations as they were done, and some general remarks in conclusion.

CASE I—Mrs. W., age 53, widow, six children; family history, negative; personal history, had typhoid fever seventeen years ago, otherwise, negative. About one year ago her menstruation ceased and she noticed that her abdomen was increasing in size. She decided that it was all due to the change of life, which can explain anything to these women. In about eight months the abdomen became so enlarged as to interfere with her breathing, and she made a diagnosis of dropsy and called her family physician. He readily agreed in the diagnosis and put her upon treatment, not without some effect, for the abdomen was said to decrease in size until it approached normal. The treatment was discontinued and the dropsy returned. The physician found that his former remedies were of no avail and asked me to tap the patient for him. I found her very much emaciated with an extremely large abdomen and suffering from dyspnea. Her heart was normal, nor was there any edema of the extremities. The abdomen was so distended that the unevenness observed in cyst was absent, so I deferred tapping and asked for a specimen of urine, which was found to be normal. I saw her again after a few days of very free purgation, and was able to make a diagnosis of multilocular cyst. I opened the abdomen the next day, median incision from about two inches above the umbilicus to the symphysis pubes, exposing a bluish white cyst wall. Aspiration was accomplished by tying a heavy piece of silk to a trocar, then passing the trocar through a piece of rubber hose, which was tied tightly around the cannula. After introducing trocar and cannula by drawing upon the silk, the trocar was drawn through the hose, thereby allowing no fluid to escape around the cannula, or previous to its introduction, as happens in knife punctures for this purpose. After emptying the cyst as nearly as possible, I found very few adhesions, those easily separated and, with two exceptions, parietal. The cyst was delivered after some difficulty, owing to its size, and found to arise from a short pedicle on the right side. This was cut between clamps, the stump ligated in segments, cauterized, and whipped over. The appendix was then removed and the abdominal wall closed in layers without drainage. Notwithstanding the cyst weighed, as nearly as could be estimated, forty pounds, the patient left the table with a pulse of eighty, and made a rapid and uneventful recovery.

CASE II—Mr. H. B. D., age 28; family history, negative; personal history, had gonorrhea fourteen years ago; chronic discharge for fifteen months. Six years ago, in a football scrimmage, he was tackled and fell, the knee of his opponent striking his left side, which rendered him unconscious for half an hour. He passed bloody urine for several days and had a stitch in that side, but gradually recovered sufficiently to go about his usual vocation. He came to my office with a temperature of 102, and pulse 120. He gave history of losing flesh rapidly for two weeks previous, having profuse sweats at nights and general malaise. I found upon examination a normal chest, but in the abdomen a large tumor on the left side kidney region, which was so large that the

left side of abdomen was elevated above the right. The urine was found loaded with pus and blood cells. Blood count was not made.

Diagnosis pus kidney:

Operation: Through an eight-inch oblique lumber incision the kidney was exposed and aspirated, as in Case 1. It was found to contain almost three pints of pus. After long, tedious, blunt dissection, which included tying off many adhesions, the kidney was finally delivered and removed. In closing the wound I placed two tubes and a cigarette drain. They were gradually withdrawn and the patient made a rapid recovery, regaining his weight and resuming his work within six weeks. The urine from the other kidney was found to be normal. The kidney removed was a mere capsule with occasional small areas of kidney tissue. It contained one black phosphatic calculus as large as a hen's egg with a dozen or more smaller ones.

In conclusion, I wish to state that in Case 1 the diagnosis of most multilocular cysts is easily made, because they seek relief early, but if deferred until they are forced by dyspnea to call a physician, their great size, together with the ascetic fluid, which is usually present, makes the differential diagnosis more difficult than we usually expect. The removal of a simple multilocular cyst is easily accomplished, owing to the usual absence of tough adhesions. In fact, the simplicity of removing any ovarian tumor depends upon the extent and kind of adhesions.

In Case 2 I am convinced that the calculi were formed in the kidney substance, having as a nucleus blood clots; that they by irritation, together with some infecting organism, brought about a chronic suppurative nephritis which gave the acute symptoms of sepsis only when the ureter on that side became partially occluded. In ligating large pedicles with heavy twisted silk, it is better to use a single knot, as the surgeon's knot will not draw down sufficiently tight to be safe.

No chronic bone swelling should be subjected to operation without excluding syphilis.

A troublesome "erosion" of the cervix may disappear without any other treatment than the replacement by pessary of a coexistent retroflexion.

GAS GANGRENE

With a Report of Two Cases *

C. W. Roberts, M.D., Douglas

My interest in this formidable complication of surgical practice has recently been aroused by its occurrence in two cases in my service at the Douglas Hospital. I have, therefore, selected the subject, which has just been announced in your hearing, primarily because of the occurrence of these and, secondly, to illustrate in a very impressive way the fact that, although we may be on the alert for this complication, it will occasionally baffle our efforts at prophylaxis, and before we are aware, produce disastrous results in a case which at first would be looked upon as likely to recover.

As one reviews the subject of emphysematous gangrene, spoken of in surgical literature under a voluminous nomenclature, a few striking facts impress themselves upon me, rendering the subject one of sufficient importance to justify its brief discussion before this society. Although it is claimed by some writers that gas gangrene is of rare occurrence, a study of the subject would rather incline us to the belief that it is more frequently met with than one would suppose. The high death rate produced by this infection and the frequency with which the condition is overlooked, make it necessary that the practitioner be always on the lookout if he is to be, indeed, a protector of the lives and safety of his clientele. It is not my purpose to discuss at length the symptoms, pathology and diagnosis of this dreadful malady, because your text books furnish this information in a more satisfactory manner. But instead I want to give you the facts connected with the cases referred to in the outset, and try to impress upon you the important points, such facts as will enable you to correctly diagnose the trouble when it appears, before it is too late for surgical interference. I have referred to the subject of this paper as a complication, not wishing to convey thereby the idea that all cases of gas gangrene are secondary to some injury, but because the great majority are seen to develop after crushing injuries or accidents in which the soft parts are disorganized

* Read at the meeting of the Eleventh District Medical Association, Eastman, Ga., June 20, 1911.

and contaminated with dirt. In 1891 Dr. Welch, of the Johns Hopkins Hospital, discovered the bacillus, which is now conceded to be the cause of most cases of gas bacillus infection, although there are a few other organisms capable of producing gas in the tissues with practically the same symptoms. To this organism he gave the name Bacillus aerogenes capsulatus, thereby describing it pretty fully as a bacillus with a capsule that grows best without oxygen. This bacillus is found most often in the intestinal tract of mammals, and in the soil, particularly the soil of streets, public highways, railroads, etc. It has, however, been recovered from various other sources, demonstrating the fact that the infection may come in a variety of ways. For the purposes of this paper I shall assume that we are dealing with the malady as it most often appears, that is, as a complication of an injury that has been contaminated with soil from streets, public highways, or railroads. As I have intimated, it is in this class of injuries that nearly all fatal cases of gas bacillus infection are seen; and before proceeding to the report of cases it might be of some interest to the members of this association to give here in passing a rather detailed history of the events leading up to the case I wish later to report, in order that you may appreciate more fully the facts I shall mention in its connection, especially pertaining to the prophylaxis employed and the immediate after care instituted.

In March of this year a young lady of about eighteen was admitted to the Douglas Hospital suffering from the effects of a gunshot wound of the left axillary region. Upon admittance, some thirty-six hours after the injury, the patient was found in the following condition: A large wound occupying the whole of the left arm-pit. severing the axillary artery and the inner trunk of the brachial plexus, contaminated by dirt, and soiled clothing was found. The patient was very pale from loss of blood, the pulse rapid, expression haggard, temperature 101°. The injured arm was warm and had a good color, although there was considerable swelling. The hand and lower forearm was insensible to touch. The next day after admittance patient complained of severe pains in the arm, but pulse was stronger, slower and appearance of arm was about the same. On dressing the axillary wound I noted a reddish watery discharge of a peculiar odor, and around the border of the wound a bleb-like formation was present. In one of the largest of these blebs a dark fluid could be seen, showing through the thin wall, which on puncture, proved to be of the same character as that oozing from the wound. The next day the nurse noticed early in the morning that the hand and arm were swollen, there was more complaint of pain, and a distinct discoloration of the hand and arm, producing a rather marbled appearance; had begun with areas here and there of a reddish green, giving the arm the appearance of ecchymoses. On dressing the wound several large blisters were present around the border, and about the arm, all containing syrupy fluid of the same appearance and odor as that coming from the wound proper. At the same time gas was discovered in the tissues about the wound, on the chest wall, and down to the elbow on the arm. On pressure it escaped from the wound. The diagnosis was no longer in doubt, and I discovered to my chagrin that in an over-zealous effort to save an extremity, a desire made more keen by a solicitous father, that I was face to face with a severe case of emphysematous gangrene. Systemic symptoms rapidly ensued, temperature and pulse went up, patient became delirious, and death ended the scene after some thirty-six hours of suffering. Preparation for amputation was made at a very late hour, but when the patient was anesthetized it was discovered that the condition involved a large area of the chest wall, and amputation could not be done through sound tissues. This deterred us from further effort and we relinquished hope, I trust wiser, but deeply convicted of unintentional oversight and misjudgment.

On the heels of this case, and having read carefully and repeatedly the literature on the subject, the second case I wish to report, pertaining directly to railroad surgery, came in for treatment. He was a young negro man of about twenty-two years of age, well developed and apparently in splendid health. In attempting to stop a car of lumber on which he was riding, the car having been shoved forcibly on to the main line from a switch, in an attempt to connect it on to the train, control was lost and the car struck with considerable force another car of lumber, throwing the negro between the cars and piling quite a quantity of lumber upon him. He was extracted and found in ap-

parent good condition save one leg. When he arrived at the hospital he was in splendid condition. No shock, very little loss of blood, good strong pulse, etc. Examination showed that he had suffered a compound fracture of the tibia and fibula of the right leg, with considerable pulpification of the tissues and laceration of the skin just below the knee. The wound was contaminated by dirt, greasy bits of pants and underwear, and I noted at the time considerable crackling in the tissues, which I took of course to be air that had gotten into the wound. Recognizing this case to be one in which gas gangrene readily develops, and with the experience in connection with the case just reported clearly in mind, the patient was anesthetized, the wound laid open, a very thorough cleaning done, in which green soap, bichloride, and hydrogen peroxide were freely used, the bones approximated, free drainage through numerous wounds in the surrounding skin established, a few stitches bringing the skin together in places introduced, and a plaster-cast applied, immoblizing the extremity. A large window was cut in the cast at this time, allowing frequent inspection and dressing of the wound. I remember to have remarked to an onlooker and the assisting physicians that this case was a good one for the development of gas gangrene, but in reality I least expected that it was going to develop. The patient was put to bed in good condition. Circulation in the foot good. The next morning he complained of pain in the leg. The foot was a little swollen, but warm, and of good color. Temperature was 101°, pulse bounding and a little rapid. The dressing was removed, when a rather uncharacteristic fluid was noted escaping from the wound—taken to be an excess of fluid left in the wound in the cleaning-up process. No crepitation could be detected more than was present at the time of admittance, although this was again noted. The next morning patient complained of a restless night, severe pain in the leg, temperature was 103°, and pulse 140. Foot was rather cool, badly swollen and nails purple. The cast was immediately split its entire length and left for a short while. The foot not only remained cool, but got worse, and when the dressings were removed a little later a sweatish bloody discharge was noted, a few blebs seen about the wound and crepitation well diffused. The cast was removed, when it was found that the emphysema extended almost to the ankle. Preparation for amputation was made as hurriedly as possible, but before this could be done patient was in a stupor, had a temperature of 104 1-2°, and a pulse of 160. Fifty-two hours after admittance leg was amputated in the middle of the thigh, but patient's condition was not changed by the operation, although he regained consciousness perfectly and rallied from the shock of the operation. The night following he died, the symptoms of a severe toxemia ending the scene.

Now, I have presented the histories of these cases that you may see the similarity, and have given my conduct of them in the hope that you will freely criticise, where criticism is due, trusting thereby that some plan of management in such cases may be found that will result in a more favorable outcome.

From a study of the cases reported and the literature of the subject a few practical conclusions may be drawn:

1. This disease develops most often in wounds contaminated by street dirt, railroad dirt and intestinal tract discharges.

2. Laborers and railroad men are prone to the infection due to their exposure to the above mentioned sources of contamination of their wounds.

3. Although it would appear that many cases are infected with bacillus aerogenes capsulatus or ganism, in which the tissues successfully combat its further development, the disease makes its appearance clinically in relatively few cases, say one in twelve hundred and fifty surgical cases exposed to the infection.

4. All wounds contaminated with street or railway dirt should be watched for the development of this infection for forty-eight hours at least before sealing them up with dressings or plaster-casts.

5. Although it appears that the organism resists the ordinary antiseptics, such as bichloride, hydrogen peroxide, tincture of iodine, and green soap—these having been freely and faithfully used in Case 2 reported of my cases, and in various other instances in the literature—these agents should be vigorously used, especially hydrogen peroxide, and then the wounds left open so that plenty of air may come in contact with them all the time.

6. When the complication has developed as would be determined by a definite clean cut, clinical picture the only

treatment that one should consider is early amputation through sound structures when this procedure will remove the infected tissues. If amputation cannot be done as in involvement of the body proper multiple incisions with irrigation with hydrogen peroxide should be resorted to.

7. Treatment to be of avail must be done before seventy-two hours has elapsed following the injury.

PREVENTABLE DEAFNESS *

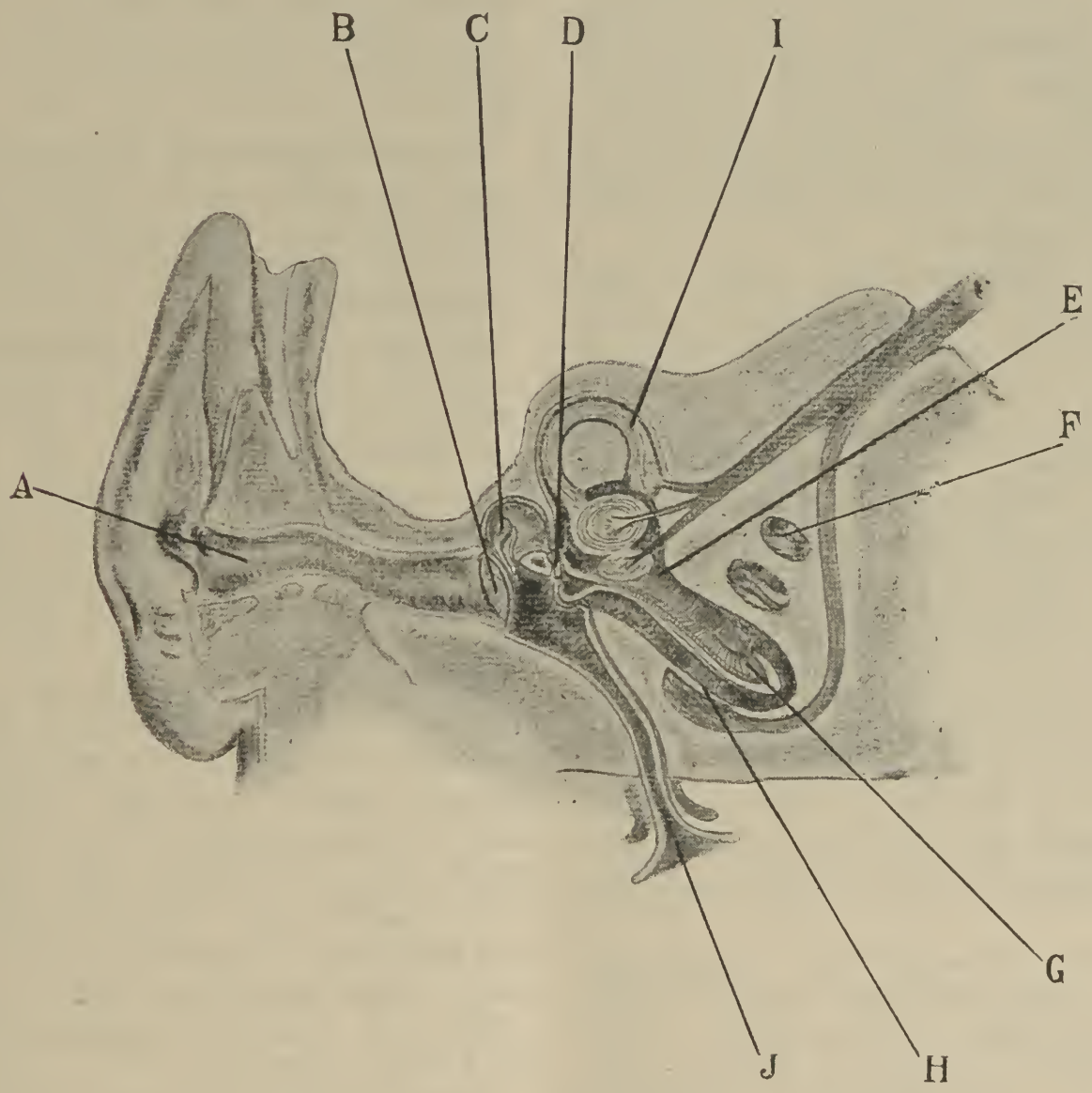
W. C. Lyle, M.D., Augusta
Professor of Special Therapeutics, Medical Department, University of Georgia

This paper is written not for the aurist who is already familiar with the propositions to be advanced, but for the general practitioner who, while he may be thoroughly cognizant of every fact elucidated, yet as a result of his manifold duties and arduous field of application may not have been so impressed with some of the earlier symptoms and multitudinous complications leading up to impaired hearing or total deafness.

When we consider the vast proportion of our population who suffer from impaired hearing to a greater or less degree and consider the importance of the irrefutable statement that eighty per cent. of these cases are preventable, I feel that no apology is necessary for the presentation of this paper.

In the consideration of the subject I shall content myself with only such slight reference to the anatomy, physiology and pathology of the auditory apparatus as is absolutely necessary to its intelligent elucidation.

To expedite this, I will occasionally call your attention to the following diagram, which represents a section of the right ear:



Now let us follow a sound wave as it enters the canal (a) and strikes the drum membrane (b) where vibrations are conveyed by the chain of ossicles (c) to the oval window (d). The foot plate of the stapes then starts in wave motion the lymph fluid in the scala vestibuli (e) and these waves pass through the helicotrema.

* Read before the First District Medical Society, Millen, Ga., February 29, 1912.

or small opening at the apex of the cochlea (f) into the scala tympani (g) and end at the membrane covering the round window (h), (error in diagram). By these waves the membranes are thrown into motion and the vibration recorded by the hair cells of the organ of Corti situated upon the membrane and the impulse conveyed to the brain by the nerve filament receiving it and perceived as "sound".

You will observe that from a physical standpoint alone the mechanism of the ear is quite complex. I digress here for a moment to call your attention to an often overlooked condition, producing symptoms that the average practitioner does not often attribute to the real cause.

The nerve supply of the canal is from Arnold's branch of the pneumogastric and from a branch of the fifth nerve.

If a mass of wax becomes impacted in the canal, pressure upon these branches produces a persistent hacking cough or a facial neuralgia. Many of these intractable conditions, which require opiates in some form for relief, may be permanently cured by the detection and removal of the inspissated cerumen.

I likewise take occasion here to call your attention to the semi-circular canals, one of which (i) is depicted in the diagram.

These canals have no part in the function of hearing, but are concerned in equlibration. Each of the canals is set at right angles to the other two and no movement of the head can be executed without setting the contained lymph in motion.

An injury or diseased condition that interferes with the equilibrium of the fluid in these canals likewise interferes with the equilibrium of the entire body.

A fracture at the base of the skull frequently crosses one of these canals producing profound nausea and persistent dizziness.

Finally, we consider the eustachian canal (j), connecting the cavity of the tympanum with the naso-pharynx. Pathological conditions affecting the lumen of this tube are responsible for more than half the affections of hearing and practically all of them may be prevented.

Defects of hearing occur as a result of any disturbance of function of the conduction or perception apparatus of the ear. It may be stated as a general rule that the deeper the lesion the more profound will be the defect.

In their anatomical order we may consider preventable defects of hearing as due to the following three causes: Affections of the External Meatus—Inspissated Cerumen, Furunculosis, Dermatitis, Eczema, and foreign bodies; Affections of the Drum Membrane, and Affections of the Eustachian Tube, Epipharynx and Fauces.

(1) Affections of the External Meatus.

You may remove cerumen by syringing with warm water and occasionally softening same with carbolized glycerine or hydrogen peroxide. Care should be exercised regarding the temperature of the water used, as either cold or hot water will, by changing the temperature of the lymph in the semi-circular canals, set it in motion and thereby produce more or less profound dizziness and nausea.

You should always be prepared for fainting or collapse from this cause when syringing an ear, but if the water approximates body temperature this seldom occurs.

A small amount of bicarbonate of soda dissolved in the warm water often assists materially in softening the mass. Peroxide should not be used if you suspect a perforated drum.

Furuncles in the canal should be incised as elsewhere after first touching with pure carbolic acid and then with alcohol, to render the surface anaesthetic.

Dermatitis, Eczema and other skin lesions of the canals should be treated as elsewhere, but extra caution should be observed in keeping the surface as nearly aseptic as possible.

Foreign bodies may usually be removed by a stream of water, as in the case of cerumen, but if not, try the insertion of a narrow strip of adhesive plaster and attach to the substance, or a camel's hair brush dipped in liquid glue and allowed to fix itself to the foreign body. Do not use forceps or hooks except as a last resort. More ears have been permanently injured by useless instrumentation than by foreign bodies.

If the foreign body is an animate object, it should be killed by drowning with water or oil, or by blowing the fumes of chloroform into the ear by means of a pipe.

(2) Affections of the Drum Membrane and Middle Ear.

Retraction, Bulging or Pouching, Atrophy Catarrh, Ankylosis of the plate of the stapes to the oval window, Anemia

of the Mucosa, Loss of Muscular Tone, fluid accumulations and Polypi.

One will observe that most of these conditions disturb the tension of the ear drum and thereby interfere with the transmission of the sound wave to the labyrinth.

As practically all of these conditions are due directly to the causes enumerated in the next class, I will defer their consideration.

(3) Affections of the Eustachian Tube, Epipharynx and Fauces.

Catarrh, Lymphoid Hypertrophy, Paralysis of the Palatine Muscles, Adenoids, Diseases of the Tonsils, Infections occurring during the course of Examthemata.

One cannot but observe the preponderance of these conditions due to catarrh. What causes the catarrh is then the question the doctor is called upon to answer. Catarrh in these localities is generally, if not always, due to a chronic irritation. It may begin in the nose as a result of a neglected coryza, of a deviated septum, an irritating spur, or a hypertrophied turbinate and extend to the pharynx. It may begin in the pharynx as a result of a tonsillar infection. It may result from the constant eructations of irritating gases from the stomach in digestive disorders. It may arise from any source of irritation, but in its earlier stages at least it is easily curable. In the later stages it requires persistent treatment. But from whatever cause, it is encumbent on the general practitioner to recognize it early and treat it promptly or he will be responsible for at least a partial deafness, unless the gods are kinder to his patient than usual. This deafness will be caused by an involvment of the Eustachian tube, which prevents the maintainance of the equilibrium of air pressure betv.een the middle ear and the external ear. The tension of the drum head, the ossicles and the labyrinthine fluid are disturbed and deafness and tinnitus result. The rarification of the air in the middle ear allows the air pressure from the outside to push in the drum-head and the ossicles, thereby driving the foot plate of the stapes into the oval window and inducing constant pressure upon the lymph in the labrynth.

By far the most fruitful cause of these conditions is post nasal adenoids. These adenoid masses frequently occlude the pharyngeal opening of the tube, thus producing the chain of symptoms referred to, but oftener they are attended by a post nasal catarrh, which is purulent in character and soon involves the tubes.

How many children are given "Soothing Syrups" for "Sniffles"? Usually adenoids! How many of the children to whom you have given anthelmintics for worms, diagnosed by the child picking at the nose or ears, were examined for adenoids? How many children have you treated for "nerves" as a result of a history of "horrors" at night? These cases are characterized by intermittent and remittent periods of deafness that parents and teachers overlook or attribute to inattention and censure the child.

The best authorities affirm that ninety per cent. of adenoids are accompanied by more or less serious impairment of hearing, and if neglected, pass from the class of preventable to that of incurable cases.

The presence of diseased or enlarged tonsils not only indicates adenoids, but of themselves produce a chronic catarrhal or supurative inflammation. Diseased tonsils do not always stand out beyond the fauces. We may have a "submerged" tonsil that can only be seen when a child "gags" and has its lacuna filled with debris and teeming with organisms producing a catarrhal deafness, as well as rheumatism or other infections in remote parts of the body.

A paralysis of the palatine muscles, due to diphtheria, scarlet fever, or other acute infection incident to childhood, should be carefully treated or deafness will ensue. Frequently these paralyses may be cured by a removal of the tonsils, thus detaching the pillars of the fauces.

If you recall for a moment the number of cases of deafness due to these diseases, you will readily appreciate its importance. Abscess of the middle ear, following the eruptive fevers, is generally due to transmission by way of the eustachian, and can often be prevented by the use of antiseptics, and after formation should be immediately incised, using equal parts of cocaine, menthol and carbolic acid as a local anaesthetic for the drum.

In conclusion, I wish to call your attention to the following facts: 1st. Ninety per cent. of deafness is preventable. 2d. Seventy-five per cent. is due to catarrh. 3d. Catarrh is a manifestation of a local irritation or inflammation, and when such source of irritation or inflammation is removed, tends to get well of its own accord.

ABSCESS OF LIVER

J. G. Tuten, M.D., Jesup

Mr. J. M. F., age 46, white, was taken sick with a chill and fever which came up as soon as the chill was thoroughly gone, and attained a height of 104 Farh. in a few hours; fever continued until I saw him that night about 10 o'clock. He was a railroad man and was first at one place on the A. C. L. and then the other, and I readily diagnosed a case of intermittent malarial fever, and thought he would be well in a few days on that treatment, but to my surprise the fever did not intermit as I had expected. I gave a thorough dose of calomel comp., plenty of sulph quinin and Fowler's solution and kept the bowels well open from that time with C. C. pills, but this treatment was of no good. By this time, the third or fourth day, patient began to complain of severe pain in the region over the right lobe of the liver. I gave another dose of calomel comp. and also blistered whole of right side, especially over the pain, which was over the right lobe of the liver. I also continued quinin and added some phenacetine, thinking I would be able to reduce the fever.

This was now May 17, or ten days sick in bed. Pain continued in side; skin was getting yellow, and did finally get very pronounced jaundice. I then put him on treatment for jaundice, but his skin cleared up very slowly.

Now on May 27, or about three weeks of patient's illness, the A. C. L. officials came and carried him to their hospital in Waycross. Of course I lost sight of his case then until June 29, or one month and three days, when I met his wife (who, by the way, is a trained nurse, and a good one, too), with tears streaming down her cheeks, and told me that the doctors in the Waycross Hospital had sent him home to die; they said that they could do nothing further than await the end.

She urged me to go and see him again. I went and found him still suffering intensely with pain and swelling in the same place as before he left for the hospital. His temperature was running high, about 102 to 104, all the time. Nothing seemed to have any influence on this temperature and at the same time he was sweating profusely all the time, whether he had any febrifuge or not.

This continued until July 12, when I insisted on an operation for abscess. When he consented I got Dr. T. W. Causey to assist me, and his wife being a trained nurse, we did the operation in this way. First, to prove the pus was in the cavity that I knew was there, I introduced a large size trocar and canula, and when I withdrew the canula the pus came in great quantity. I then withdrew the trocar and with a hernia knife made an opening about three inches long; I separated the ribs as far as possible and introduced my fingers into the pus cavity, which seemed to be as large as an ordinary orange. I then introduced several drainage tubes side by side in this opening and dressed it. I am satisfied that this opening allowed a quart of pus and liver cells to escape at this first sitting. The wound was dressed twice daily for about six days, and once daily for about six, when the wound was healed. The drainage from these tubes was free for the first few days and decreased daily, until they quit discharging about the sixth day, when the tubes were taken out and wound was fully healed by August 4, when I dismissed his case.

I want to say further that I stopped all febrifuges the day I operated and the fever was all gone and he had no more until August 13, when his wife called again and said his temperature had gone to 103, and asked me to call and see him. When I arrived I found him suffering with the same pain in the side. Then I decided and did the second operation like the first; felt inside the cavity and found it almost filled in and about one ounce of pus escaped. Drainage tubes were put in and kept in for a few days until discharge ceased, when they were taken out and the place rapidly healed. He was up the second day after last operation. He has never had any further trouble and returned to his work about October 1, and has never been sick since and is in better health than in years.

Hemorrhage from an accidental wound in the vulva is usually better controlled by gauze packing than by attempts at ligation.

The X-ray is invaluable in the diagnosis of bone cortex and periosteal disease. In bone medulla infections it is of little service.

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HONEST DOCTORS

An address full of good sense and sound advice appeared in a recent number of this Journal, in which our profession was chided for its neglect of sound business methods in carrying on the financial side of the profession, viewed as a means of gaining a livelihood. It is certainly not less important that we should be reminded from time to time of the obligation resting on us to render honest service. It may be taken as an axiom that a man, who from neglect of the means at his disposal, allows his patient to undergo untoward complications in a malady where they might have been averted, or to suffer where he might have been spared, or to perish where he might have been saved by timely diagnosis, is guilty of a very grievous error. The phthisical patient who is treated for malaria or grippe, the puerperal patient who is allowed to become hopelessly septic or drag along with an unrepaired laceration, the neurotic dyspeptic who is starved when he should be fed, the arthritic who is drugged when he needs exercise and nutrition, the sufferer from slow-poisoning arising in some unrecognized septic focus, in tonsil, pleura, gall-bladder or elsewhere, all have just grounds for complaint that they did not receive fair and honest treatment at the hands of the man whose services they retained. While it is doubtless true that there arise in the practice of every physician maladies obscure and difficult or impossible of diagnosis, the nature of most diseases may be recognized by any man of average common sense, provided that he employ the means necessary to make a diagnosis. His success in doing what he can be done for his patient depends far more on honest industry and not on genius.

There is probably no large group of workers whose work is so little subjected to the check of sane criticism and review as physicians. The patient suffering from an acute self-limited disease is inclined to attribute his recovery to the potions prescribed. The friends of the man who succumbs to an unrecognized empyema regard the result as the visitation of Providence and often praise the kindliness and zeal of the man who had enough physical energy to make many visits at so much per mile, or per visit, and insufficient mental industry to make the proper physical examination, or blood count, or exploratory puncture necessary to determine the diagnosis and relieve the patient. It is unfortunate for the usefulness of the profession that our work is so little exposed to intelligent and fearless criticism.

Some time ago that trenchant assailant of social abuses, Mr. George Bernard Shaw, wrote a play entitled "The Doctor's Dilemma," in which, and in a hundred-paged preface to which, he let out his whole mind on the subject of the medical profession. The author's conclusions, so far as they bear upon scientific theories and the purely technical side of medicine are as hasty and inadequate as might be

expected from a man who has only dipped cursorily into a vast subject in which one must be at home for years in order to form judgments of value. His views, however, on the economic and social aspects of the physician's works deserve respectful consideration. No class in the community, he says, should have a vested interest in all-health. Few men, he thinks, are able in the face of a nice point in diagnosis to decide against themselves when the reverse decision will mean the acquisition of a large fee. Where a surgeon considering the advisability of an operation has to reckon on the need of money for a pressing obligation, he thinks it impossible for him to escape bias. Where the physician can at once magnify his office, his services, and his fee by bringing in the dread spectres of pneumonia or diphtheria, into the question of a sore throat or bronchitis, it is easy to conceive of his not being quite impartial in rendering his opinion. While it is certainly probable that Mr. Shaw's remedy that physicians be employed by a community rather than by the individual would bring great and inevitable disadvantages, it is none the less true that the vulnerability of our profession to criticism along these lines cannot be gainsaid.

In addition to the obligation to honest industry in his diagnostic efforts and honest impartiality in his conclusions, the patient has the right to an honest statement from the physician as to the facts of his case, so far as they are known, when such knowledge will in any way contribute to make the patient more serious and persistent in his efforts to regain his health or ward off disaster. Certainly a garrulous and inhuman frankness which would force upon a carcinomatous sufferer, for instance, a premature knowledge of the hopelessness of his condition, no one would defend, but it seems oftentimes to be almost a habit with doctors to misinform patients as to the nature of their ailments. The family and friends are usually aware of the deception that is being practiced on the sick one and consequently, when it comes their turn to be sick, they are prepared to believe little of either good or ill that is told them. While it is true that a man suffering from renal or cardiac lesion, will suffer a period of depression in learning the nature of his trouble, this depression will seldom be long-lived and the patient will gather from it moral force to wage a careful and well-considered campaign against the progress of the disease, whereas, if he is buoyed up with easy assurances, he may not improbably neglect his gravest interests. It will certainly be an enormous asset to the physician in dealing with the large contingent of neurotic and imaginary maladies to have built up among his clients a reputation for honest speaking. It is a welcome advance in the ethics of the profession that the ultimate profit of truth-telling is becoming more and more recognized.

BOARD OF MEDICAL EXAMINERS

The recent action of the Governor in appointing members of the Association as members of the State Board of Regular Medical Examiners, has received the hearty approval of the profession. When the secretary of the Association called on the Governor to urge that only members of the Association be considered, he was told that the appointments had already been decided upon and would be announced the following morning, but when assured that the organized medical profession of the State would be disappointed if a non-member were continued on the Board, the Governor promised a reconsideration of his action, and finally gave both the appointments to regular members. This is only an example of what may be done by organized effort on the part of our membership. There was no opposition to the former incumbent other than that he was not a member of the State Association. He was an able examiner, an impartial member, a thorough believer in higher medical education, and honored by his fellow members on the Board, but he had not joined his State Association. He had neglected the higher duty of the physician to his brothers and though perhaps he felt that he could receive nothing by being a member and attending our meetings, yet he could give us something by presenting papers and relating incidents gleaned from his broad experience. There are times when it is better to give than to receive.

There can be no question of the justness of the Governor's action in this matter. A majority of the States reciprocating with Georgia, require that candidates for reciprocity licenses in their respective States shall present a certificate showing that they were members in good standing of their State Associations. Surely, then,

the Board itself should be composed of men who are members.

Life insurance companies, railroad and transit companies, and other business corporations will not consider the application for a position of a man not a member of the Association when they can secure such an employe who is a member. They know that all the better, broad-minded men are members, and they do not wish to employ those not in this class. The secretary has during the past year replied to literally hundreds of letters inquiring if such a man was a member in good standing of his State Association. Perhaps some physician failed to secure a desired position in consequence.

The former member of the Board of Examiners, who was succeeded by a member of the Association, has, however, shown the proper spirit and assured us of his support by organizing a flourishing county society at his home, and has been elected president of same. His society was the first in the State to remit their dues to the State office, and we learn that they propose to have a society that will make us "sit up and take notice."

DON'T LAPSE

The secretary is making a desperate effort to retain for this year every member of last year, as well as to secure all the new ones possible. If you were a member last year and your name is not included in your county society report, you may expect a pleading letter from the State secretary, and you will continue to be annoyed by just such letters until you renew your membership or convince him that you have really "fallen from grace" and are beyond redemption. He should be allowed to devote his time to missionary work in new fields, not to preventing proselyting in the old ones.

CONSULT YOUR PHARMACIST

Holding it to supplement or extend our own efforts to do away with the uncritical use of proprietary remedies, pharmacists have been trying to interest us in their "U. S. P. and N. F. Propaganda." To us this has always appeared as a suggestion merely to cease prescribing vicious or worthless proprietaries and to use instead their U. S. P. or N. F. equivalents. While the official preparations have it in their favor that they are of known and uniform composition, their very complexity means that they will be used uncritically and without consideration of the needs of the individual patient. We, therefore, have been unable to feel very sympathetic toward those pharmacists who have been trying to get us to use Compound Digestive Elixir, N. F., Compound Acetanilid Powder, U. S. P., Compound Syrup of White Pine, N. F., Compound Syrup of Hypophosphites, U. S. P., and similar shot-gun mixtures rather than the proprietary humbugs for which they stand.

On the other hand we believe that physicians and pharmacists should work hand in hand and that such co-operation will be of advantage not only to the physician, but to the patient as well, and therefore we heartily endorse the sentiments contained in a paper presented to the Washington branch of the American Pharmaceutical Association, by W. A. Puckner, secretary of the A. M. A. Council on Pharmacy and Chemistry, who says: "Physicians need pharmaceutical advisers—those whom they may consult concerning desirable methods of preparing medicines for administration, their incompatibilities and similar questions, upon which it is difficult for physicians to keep posted."

The paper points out that "the recent reports of the Council on Pharmacy and Chemistry of the American Medical Association and of the Association's chemical laboratory demonstrate amply that entire dependence cannot be placed on manufacturing pharmacists and their endless assortments of ready-made tablets, elixirs and syrups." and presents reasons why physicians should write individual prescriptions for pharmacists to dispense.

The author points out that while in the past the physician has been inclined to forsake the pharmacist because of incompetence, now "happily, there are signs that pharmacists are awake to the tendency of the times and are making efforts to devote more attention to the professional side of their profession; and, as a result, there is a tendency on the part of physicians to go back to the old times, and once more get in touch with their druggist. The pharmacist, however, must realize that physicians need **real pharmacists** as advisers and not druggists, who, while prominent at 'get-together dinners' with talk of 'U. S. P. and N. F. Propaganda,'

neglect their prescription counters to prepare grewsome 'patent-medicine' displays and advertising dodges in their front windows.''

PROBABLE FAILURE OF HEALTH BILLS IN CONGRESS

A Washington correspondent says in a letter that from his conversations with influential members of the House committee there is little likelihood of any legislation during the present session of Congress looking toward the extension of the authority of the Public Health and Marine Hospital Service. It also seems probable that a department of public health cannot be established. This means the abandonment of Senator Owen's bill. The opposition is based on the increase of authority asked for by the heads of the public health service.

One member is quoted as saying that ''We cannot possibly permit a comparatively unimportant matter, such as to increase the authority of the Public Health and Marine Hospitau officials, to take our time in the early months of the session.''

Now would be a good time to see how much influence medical men can bring to bear on the members of the committee. A well-organized attempt to convince the committees of the **importance** of public health measures would doubtless overcome the non-medical obstructionists.

Doctors do not know how to play big politics, but it is a good season in which to begin to learn, and perhaps they would learn a few new moves if they would get busy.

It is deplorable to think that destructive organizations, patent-medicine makers, and so-called religious cults block the progressive march of medical men and their influence and effort to improve the health of the nation.

The publicity given to medical research, the discovery of new and scientific methods of combating epidemic diseases, and the general improvement in the care and treatment of the sick, must still be restricted to the benefit of the few rather than disseminated among the many. When a public and influential legislator or congressman is sick or his family in danger he seeks a physician, usually, but if the nation is sick or likely to be overtaken by an epidemic he virtually tells the doctors to go hang.

All we can do is keep at the educational side of public welfare, and some day the fossilized anti-medical politician will lay aside his earthly burdens and shovel coal. Then perhaps a new man with up-to-the-minute ideas will take his place, and the people will reap the benefit—if they can stand the strain.

THE THIRTY-CALL-A-DAY DOCTOR

Dr. Cabot, in a recent address, remarks that one day, while riding along in the buggy of an old-time country practitioner, he asked him: ''Why do we no longer hear of the tremendous practices formerly supposed to have been possessed by some men, who it is said, often over considerable periods of time, made their thirty and forty calls a day?'' It was the older doctor's opinion that the laity has awakened to the fact that the doctor who is too busy has neither the time nor inclination to devote the necessary amount of attention to the individual case. Hence there is now, more than there was formerly, a stronger tendency toward an equalization of the amount of work the physician finds to do. The average patient is no longer content, and rightly so, with the perfunctory grasp of the wrist, glance at the tongue, one question about the appetite, another about the bowels. and then the hastily written prescription. It was formerly supposed by the young and struggling physician that whether he was busy or not it was necessary to appear busy. In other words. the less busy he was the more busy he had to be keeping up an appearance of being busy. This may still in some degree be true, but there is now a limit such as there did not seem to be formerly, when people were glad to wait half a day for the privilege of being given two and one-half minutes' attention by some famous but overly busy doctor. It is well for us to keep the golden rule in mind, and when we reach that literally golden era of practice where we are so busy that twe cannot give the patient that sincere, detailed, and conscientious attention that we ourselves would wish to have given us were we in the position of the patient, to refer those patients to the younger man, who can afford to give them a sincerer attention and inject into the treatment of their case a fresher enthusiasm.—Lancet-Clinic.

THE COUNTY SOCIETY SECRETARY

As we have had occasion to say before, the society secretary is the most important man in the osciety. He it is who makes or breaks the society. If his duty is neglected the society will soon begin to lose in interest and finally go to pieces. His most important duties are, to collect the annual dues early in the year, to see that a good program is prepared for each meeting, to have his minutes written up promptly and in an interesting manner, and to be prompt at every meeting. To have poor programs and to be late in beginning the meetings will kill any society in time, and that no long time either. Members cannot afford to go a long distance to a medical meeting with an uncertainty as to time of beginning and character of the exercises. If your secretary fails in the essentials named, displace him and elect another of a different pattern.—West Virginia Journal.

ANNUAL DUES NOW PAYABLE

Members are urged to pay their dues promptly in order that they may enjoy without interruption all the benefits and privileges of membership. Many of the county societies have sent in their reports for 1912 and a large percentage of the members have paid their dues for this year. A few members still owe for 1911 and these dues must be paid along with 1912 dues in order to retain good standing. All members who fail to pay their dues promptly after January 1 stand suspended and cannot participate in any of the privileges of membership until all dues have been paid. Furthermore, only those members who have paid their dues are recognized as in good standing by the American Medical Association; therefore delinquent members are regarded as nonmembers and their names will appear in small type in the forthcoming directory, indicating that they do not belong to the county or State associations. We urge all those who have not yet paid their dues to remit at once to the county secretary.

In case of abdominal disease a vague mass in the epigastrium associated with exaggerated distinctness of aortic pulsation at that point suggests pancreatic disease or retroperitoneal lymphatic tumor.

THE NATIONAL LEAGUE FOR MEDICAL FREEDOM *

An Organiaztion Engineered and Inspired by Patent Medicine Exploiters and Those Opposed to Pure Food Laws

Some Officers of the National League for Medical Freedom

So many inquiries have been received for information regarding the leaders in the National League for Medical Freedom that it has seemed worth while to collect such matter and to reproduce it herewith, as it may help explain one of the many reasons for the opposition shown by this organization to the American Medical Association and its activities:

B. O. Flower, Boston: President and one of the founders of the National League for Medical Freedom. Flower is ex-president of the R. C. Flower Medicine Co.. a mail-order medical fake, founded by the notorious quack and swindler, R. C. Flower. R. C. Flower is a "graduate" of the notorious American Health College recently exposed in The Journal in connection with Carson, the Kansas City quack. While B. O. Flower was owner and proprietor of the "Arena", that magazine carried advertisements of such frauds as the J. L. Stephens morphine cure (exposed in "The Great American Fraud"), the New York Institute of Physicians and Surgeons (put out of business by the government and exposed in "Nostrums and Quackery"), Welch's Magic Tea, Trilene Tablets, Clark's Rheumatism Cure, etc. His later magazine, the "Twentieth Century," advertised that preposterous fraud, the "Oxydonor," exposed in The Journal and in "Nostrums and Quackery."

C. W. Miller, Waverly, Ia.: Second vice-president of the National League for Medical Freedom. Miller publishes a newspaper that carries advertisements of such nostrums as Winslow's Soothing Syrup, Doan's Kidney Pills, Lydia Pinkham's Vegetable Compound, Pierce's Favorite Prescription—all of which have been exposed by the American Medical Association. While in the Iowa Legislature, Miller is said to have voted **against** (1) a pure food bill, (2) a bill that made the law relating to the sale of poison more rigid, (3) an act to regulate the sale of "patent med-

* From the American Medical Association Bulletin, November 15, 1911.

icines,'' (4) a bill to prevent the depositing of samples of ''patent medicines'' in private or public places—a bill that was formulated largely because of the deaths of children who had taken the sample packages left in yards and on porches. Miller is also alleged to have opposed bills that required the use of pure ingredients in ice-cream.

Charles Wentworth Littlefield, M.D., Seattle, Wash.: Chairman of the Washington branch of the National League for Medical Freedom. Littlefield exploits the ''Twelve Vitalized Tissue Builders,'' which are to be used ''in curing all mental and nervous diseases.'' He advertises that ''any organ or tissue of the body can be reconstructed and its functions re-established by the use of Twelve Vitalized Tissue Builders. So also can any disease be cured by their use.'' He advertises to give mail-order ''treatments.''

Frederick Wallace Abbott, M.D. (F.S.Sc., Lond.), Haunton, Mass.: Member of the Advisory Board of the National League for Medical Freedom. The letters, ''F.S.Sc., London,'' after a person's name indicate that the individual is a ''fellow'' of the ''Society of Science, Letters and Art'' of London. This so-called society is a serio-comic fake which issues ''fellowships,'' with an elaborate ''diploma of merit'' thrown in, at $5 apiece. The ''diplomas'' seem to be much sought after by ''patent medicine'' fakers. (See The Journal, May 29, 1909, and the book ''Nostrums and Quackery,'' published by the American Medical Association, for further details concerning this fake ''society.'')

C. S. Carr, M.D., Columbus, O.: Member of the Advisory Board of the National League for Medical Freedom. Carr has been in the employ of the Peruna concern for years. He is editor of a pseudo-medical sheet in which some of the worst medical frauds in the country have been advertised. Many of these frauds have been exposed in The Journal. arr does a mail-order medical business of his own, selling what he calls ''tissue remedies.'' (See ''The Great American Fraud,'' published by the American Medical Association, for further data on Peruna; also see The Journal, December 9, 1911.)

George P. Englehard, Chicago: Member of the Advisory Board of the National League for Medical Freedom. Englehard publishes two journals which have long defended the ''patent-medicine'' interests and which have carried advertisements of some of the worst frauds in the nostrum business. Both of these publications have been exposed in ''The Great American Fraud'' and in The Journal.

Charles Huhn, Minneapolis: Member of the Advisory Board of the National League for Medical Freedom. Huhn was president of a co-operative ''patent-medicine'' concern, known as the American Druggists Syndicate, whose methods have been repeatedly exposed in The Journal.

A. F. Stephens, M.D., St. Louis: Member of the Advisory Board of the National League for Medical Freedom. Stephns was second vice-president of the Converse Chemical Company, a St. Louis nostrum concern which, a few years ago, tried to get advertising space in exchange for its treasury stock and offered to give away one share of stock with every bottle of its nostrum. This concern was exposed in The Journal, January 12, 1907, p. 144.

SEND TITLES OF PAPERS

Members who expect to present papers at the next meeting of the Association at Augusta, April 17, 18, 19, are requested to send titles of same to the secretary at once. The program committee contemplates reducing the number of papers to be accepted at this meeting, or else arranging them as nearly in sections as convenient. In either case it will be necessary that the titles be in the hands of the secretary within a short time so that proper arrangement may be made.

Any member failing to receive his copy of The Journal regularly is urged to notify the editor at once. Only when complaint is made in this way can the cause of the irregularity be ascertained and in the absence of such notice it is assumed that The Journal is reaching its destination regularly. We welcome all notices of changed addresses and information that will assist in correct delivery.

FIRE IN HOSPITAL

Fire in the Macon Hospital, January 30, necessitated the removal of the patients from the hospital to the sanatorium of Dr. Howard J. Williams. This was done by the resident staff, nurses, members of the fire department and general public, without casualty.

FROM THE LITERATURE

ACTIVITY OR PASSIVITY—SYMPATHY OR SACRIFICE?

Three weeks ago we commented on the inconsistency of physicians who can find no language too harsh to express their disgust for the "patent medicine" advertisements that appear in newspapers, but who, at the same time, are subscribing for, contributing to, and in other ways lending moral and financial support to, medical journals whose advertising pages are just as much a disgrace to medical journalism as the advertising pages of the papers they criticisze are to newspaper journalism. The justice of our criticism seems to be acknowledged, for we have received several letters commending it. One letter in particular, from a country practitioner, hits the nail squarely on the head with the pertinent observation that the proprietors of that class of medical journals against which our criticism was directed will care little about the occasional dropping of a subscription by the rank and file so long as they are able to get signed articles of merit from "leaders" in medicine and surgery. This statement of our correspondent is largely, but not entirely, true; there is no medical journal—in fact, there is no publication of any kind—whose business office does not "sit up and take notice" when people write in canceling, or refusing to renew, subscriptions. On the other hand, he is entirely right in assigning to the contributions of men high in the profession a power that is pregnant with great good or evil. Our correspondent's letter was so much to the point that a copy of it was sent to some of the acknowledged "leaders" whose names have recently appeared over articles—excellent articles—published in medical journals whose advertising pages reek with medical frauds.

Few educated physicians will deny that the greatest handicap scientific medicine has today is that imposed by the fraudulent exploitation of proprietary medicines. This conviction crystallized in the creation of the Council on Pharmacy and Chemistry. The information that this body of men has been able to present to the medical profession—and to the public—on the subject of the so-called ethical proprietaries has demonstrated that, with few exceptions, the bulk of proprietary medicines offered to physicians are not only unscientific but, in many instances, positively fraudulent. But the work of the Council has been constructive as well as critical. Such proprietary remedies as have value and are exploited truthfully have been accepted by the Council and admitted to the book, "New and Nonofficial Remedies".

The submission of proprietary articles to the Council on Pharmacy and Chemistry is purely a voluntary act; there is no penalty for those manufacturers who do not see fit to submit their products to the medical profession's accredited experts—or practically none. It is true that until such products are approved by the Council, they cannot be advertised in The Journal of the American Medical Association. Nor can they appear in the few State journals and three or four so-called independent journals that follow the Council's findings, in censoring their advertising pages. But what cares the average manufacturer for that, so long as he can use the hundreds of other medical journals that gladly open their advertising pages to anything that will not debar the publication from the second-class mailing privilege?

We have said that there is no penalty for such manufacturers as ignore the existence of the Council on Pharmacy and Chemistry. As a matter of fact, there is a penalty, but the medical profession has, so far, not seen fit to impose it. In two ways physicians can bring pharmaceutical manufacturers to a realization of their responsibilities and at the same time solve the proprietary problem. They are simple—and as effective as they are simple. One is, for the medical profession to confine its prescribing to official articles and those proprietary preparations that have successfully passed the scrutiny of the Council on Pharmacy and Chemistry. Such a limitation not only will redound to the credit of scientific medicine but also—which is more important—will be in the interest of the public. The other method of imposing a penalty is for physicians to refuse to subscribe for, contribute to or even tolerate in their offices medical journals that advertise proprietary remedies that have not been approved by the Council on Pharmacy and Chemistry.

Do the physicians of the country really want to put an end to the proprietary evil?

If they do, they can readily accomplish their desire; but it cannot be done simply by having The Journal of the American Medical Association expose the fraudulence and worthlessness of many proprietary remedies. Such work is merely educational. It opens the eyes of the medical profession to the viciousness of the proprietary evil; but that is all. For several years now The Journal has been doing its part in this propaganda for reform. The time has now come when the medical profession itself must take an active part in stamping out what is generally conceded to be the greatest menace to modern medicine. Will the profession do this?

TREATMENT OF GRIP

F. S. Meara, New York, (Interstate Medical Journal, December), includes under the term "grip" all those illnesses characterized by sudden onset, aching pains in the back and limbs, headache, high fever, prostration, some catarrhal symptoms, and followed by weakness and prostration out of proportion to the other symptoms. In no other acute infection do the coal-tar products work so happily to the comfort of the patient, says Meara. He is in the habit of giving acetanilide in 1½ grain doses, combined with soda and ½ grain of caffein. The drug is frequently repeated, every hour until four doses are taken, then every two hours until 10 grains are taken, after this every three hours. No injurious effects have been observed from the drug where so given. For the catarrhal symptoms, inhalations of compound tincture of benzoin, a teaspoonful or two in a pitcher of hot water, are useful, as are inhalations of menthol prepared by pouring a few drops of the alcoholic solution on hot water. When the catarrhal symptoms are very resistant and persistent for weeks in spite of treatment, a change of air will almost always work marvels.

PERNICIOUS MALARIA

James has employed the subcutaneous administration of quinin as a preventive measure in intense infections, beginning with somewhat smaller dilutions than 1 to 150 and working up to that strength, in twelve cases, giving 30 to 45 gr. as the initial dose and repeating the doses in equal amounts or less at intervals of four to eight hours, according to the severity of the infection. In four of these cases at the time of admission of the patient a very great number of young parasites, with segmenting forms and multiple infected erythrocytes, was found in the peripheral blood. In six cases there were heavy infections with young plasmodia and quite a number of doubly and trebly infected red blood-cells. In two cases moderate infections with tertian parasites were found, but in one the patient was delirious and in the other comatose. In one case of a very heavy infection with young forms and segmenting and presegmenting parasites, one dose of 30 gr. of quinin in 10 oz. of salt solution was exhibited, followed by the oral administration of 15 gr. three times a day. In all instances when quinin was given by the mouth an acid solution of the sulphate, 5 gr. to the dram, was used. In five cases very heavy estivo-autumnal infections were present, but segmenting forms were not seen. At least 2 to 5 per cent. of the erythrocytes were infected. One preventive dose of 30 gr. of quinin in 10 oz. salt solution, was given on admission, followed by 15 gr. three times a day by mouth. In each case the subsequent paroxysm was mild. A comparison with control cases, in which the infection appeared to be equally intense and in which quinin was administered by mouth in one dose of 20 gr. on admission, followed by 15 gr. three times a day, shows a shorter duration of subsequent fever and much milder clinical symptoms when 30 gr. was administered subcutaneously on admission. There were two cases of tertian infection, which showed cerebral symptoms and ended fatally. In each of these cases the patient was admitted delirious and became comatose; and in each there was a moderate tertian infection. No abatement of the symptoms followed the use of quinin, although the drug was exhibited intravenously in one case on the second day and subcutaneously in the usual dose in each of the cases the rest of the time. Each patient died on the third day after admission. At each autopsy a few tertian parasites were found; intercurrent disease or organic trouble other than mild nephritis was demonstrated. James thinks the method of giving quinin early in severe infections, subcutaneously or intravenously in large doses, in dilutions of 1 to 150, or greater, is logical and practical.

ACUTE POLIOMYELITIS: REMARKS ON THE DIAGNOSIS

It would not be amiss, says D'Orsay Hecht, Chicago, (Interstate Medical Journal, December), for our medical chroniclers to restate a large part of the matter descriptive of acute poliomyelitis. The close scientific study of recent epidemics, aided by the accession of new facts from the research laboratories, makes a revaluation of the clinical picture of the disease imperative. It is important, says Hecht, to know that the paralysis is invariably one of muscle groups, that it is flaccid, frankly symmetrical, and followed by atrophy of the affected muscles. An atypical form of poliomyelitis is the meningeal form. The disease is not infrequently ushered in under the guise of an acute meningitis closely simulating the cerebrospinal form with headache, photophobia, neck rigidity, opisthotonus and convulsions, and examination of the spinal cord is often necessary to clear up the diagnosis. In the majority of cases of poliomyelitis during the initial stage, and even for weeks after the onset, the fluid will be found increased, released under pressure, perfectly clear, and absolutely sterile. This negative character of the fluid is in such marked contrast to the spinal fluid in other forms of meningitis as to be of distinct value in differential diagnosis.

ACUTE POLIOMYELITIS

In a review of the recent literature on acute poliomyelitis, A. Friedlander, (Interstate Medical Journal, December), calls attention to the rapid increase of the disease in this country in the last two or three years. This fact among others has stimulated investigation, and recently several important facts have been established which promise much toward the conquest of the disease. Workers in the Rockefeller Institute have succeeded in producing the disease in monkeys by the intracerebral injection of an emulsion made from the bodies of common house-flies, which had been fed on portions of spinal cord obtained from a poliomyelitic monkey. It would seem that insects play a prominent part in the transmission of the disease. Kraus has produced active immunization of monkeys by repeated inoculation of small doses of virus over long periods of time, moreover definite antibodies have been demonstrated in the blood of animals so treated. Efforts to produce a serum of therapeutic value have, however, not been successful as yet. The subject of abortive attacks of the disease has recently attracted attention. According to Frost and other observers, such cases are probably very frequent, but on account of the mild type are unrecognized. These cases are often ambulant, and doubtless play a great role in the dissemination of the disease.

PROPER BALANCE OF FAT AND LIME THE MAIN ESSENTIAL IN INFANT FEEDING

Stolte comments on the conflicting statements of various pediatrists in regard to infant feeding, some obtaining excellent results with one food mixture while others found this mixture harmful, some denouncing the very elements in the food to which others ascribe its efficiency. Looking over the entire field from a higher standpoint shows, he says, that one feature is common to all the cases in which the infants thrived, namely, that the stools became less fluid, and his research indicates that this change in the consistency of the feces is the result of soap production and absence of fermentation. The aim in feeding therefore should be to ensure soap production and avoid fermentations. From this standpoint the benefit from the most varied systems of infant feeding is easily understood; each by different routes arrives at the same goal. The essential point is the proper balance of fat and lime in the bowel to ensure soap production. If too much or too little of either is present, the desired aim is not attained. Fermentations induce production of fatty acids which irritate the intestines and interfere with saponification. These views explain the advantages of "albumin milk" as the intestinal flora with this induce putrefaction rather than fermentations. They explain further the tolerance to carbo-hydrates with buttermilk, which contains especially large proportions of lactic acid and albumin. They also explain how diarrhea may be arrested by albumin milk, by buttermilk, by diluted milk, or by milk and lime water. With cow's milk more lime is needed to saponify the fatty acids generated in the intestine by splitting of the fat. Stolte found it possible to check diarrhea almost unfailingly when he gave

the infants lime water with the diluted milk, without carbo-hydrates. The more complex the structure of the carbohydrate given, the longer it takes to be broken down into its ultimate elements, and thus the less material to ferment in a given period of time, and hence the less opportunity for the fermentation producers to do their evil work. These more complex polysaccharids include dextrin, flours and malt. This difference between the various carbohydrates was instructively shown in one of his cases in which the infant had diarrhea on albumin milk and cane sugar, while the stools became formed when flour was substituted for the sugar, and the stools became actually hard when nothing but a cereal gruel was given with the albumin milk. It is possible that the property of promoting putrefaction rather than fermentation is the chief advantage of the albumin milk; infants thrive on breast milk after serious illness although breast milk is poor in albumin, showing that the protein content alone is not the essential factor.

CUTANEOUS REACTION IN SYPHILIS

The name **luetin** is proposed by Noguchi for an emulsion or extract of pure cultures of **Treponema pallidum** which is designed to be employed for obtaining, in suitable cases, a specific cutaneous reaction that may become a valuable diagnostic sign in certain stages or forms of syphilitic infection. The luetin produces a similar cutaneous reaction in syphilitic and parasyphilitic patients that is most constant and severe in the tertiary and hereditary affections. In Noguchi's series of cases, it was present constantly (100 per cent.) in the manifest tertiary affection, in 94 per cent. of latent tertiary affection and in 96 per cent. of the hereditary affection. During the primary and secondary stages, the reaction is infrequent and when present it is of mild degree. An exception has been found in cases in which energetic treatment has been or is being carried out and in which clinical signs of syphilis are absent. Such cases may show a severe reaction. Apparently this is true especially of the cases treated with salvarsan. In certain cases of old infection in which no treatment has been taken and in which no symptoms have appeared for many years and in which miscarriages have not occurred, the cutaneous reaction has failed to appear. But, despite the absence of symptoms, mothers who have young syphilitic children have usually given the reaction. It remains to be determined in how far the cutaneous reaction with luetin can be used to supplement the Wassenmann reaction in determining the complete and permanent suppression of a syphilitic affection. It appears probable that the Wassermann reaction is more constant in the primary and secondary and the cutaneous reaction in the tertiary and latent forms of syphilis. Moreover, it appears that the Wassermann reaction is more directly and immediately affected by antisyphilitic treatment than is the cutaneous reaction.

GUMMA OF THE STERNUM

The patient whose condition is reported by L. Clendening and E. H. Skinner, Kansas City, (Interstate Medical Journal, December), is a negress aged twenty-four, who gave a history of a suspicious labial sore six years before. For the past eighteen months she had noticed a steadily growing tumor over the upper part of the sternum. This at first had been painless, but became so painful as to interfere with rest and sleep. She had lost about twelve pounds in weight. Examination revealed a swelling 3½ by 4½ inches, exactly in the region of the manubrim sterni, soft and tender and discharging through two fistulae a thin, odorless, sero-purulent material. The tibiae were smooth, there were no scars on the body nor remains of the labial sore. Under potassium iodide and mercury tannate the tumor disappeared in three months. The authors express surprise, in view of the frequency of this condition, that no reference is made to it in the general literature. They have seen two similar cases in the past eighteen months.

NERVOUS DISTURBANCES AFTER CATASTROPHES

Stierlin had the opportunity to examine on the spot or soon afterward the survivors in a recent railroad accident (fourteen dead and thirty-three injured); in the Courrieres mining accident in 1906 (1,100 dead); the Radbod similar catastrophe in 1908 (360 dead); the Valparaiso earthquake in 1906 (3,000 dead), and the Messina earthquake in 1908 (75,000 dead).

He was impressed with the small number of actual psychoses that developed among the survivors; disturbances in sleep persisted for some time, but usually only in those with other signs of nervous instability. In some of the survivors the date of the shock was recorded in a groove across the nails as they grew out afterward. The nails dropped off entirely in some of the miners who were rescued after twenty-one days. Sudden graying of the hair was noticed in a number of the survivors after the earthquakes in Italy and Valparaiso. He states that one woman's hair became slightly gray in the course of two weeks in the hospital after the Mullheim railroad accident, as also that of a man of 37 during a stay of several weeks in a convalescent home. Among the survivors of this accident eight have already developed traumatic neuroses. Immediately after the earthquakes it was frequently noted that the survivors were strikingly tranquil, even gay; although presenting a vasomotor syndrome, there was none of the usual depression after a severe shock. These disturbances generally soon subsided but in some this euphoria blended into a typical neurosis two or three months later.

CONTRACT PRACTICE IN FOREIGN COUNTRIES

What may be our personal opinion in regard to the merits of contract medical practice at the present time matters but little, says W. B. Chamberlin, Cleveland, (Interstate Medical Journal, December). It is an institution already firmly organized and flourishing in our midst, and it has come to stay. It is very necessary that our profession pay heed to these facts. The contract or Kassa practice in Austria, a sort of industrial insurance supervised by the State, has grown from 1,540,000 members in 1890 to almost three million members in 1905, or fifty per cent. of the inhabitants of the larger towns. As a result, over thirty per cent. of the Austrian physicians have a total income of less than $240 per annum. The average pay for some of the contract doctors amounts to about six cents a visit. In Germany the conditions are only a little better. The fee for an office call is fifteen cents, for a normal childbirth, $1.20. In England at present an attempt is being made to introduce a similar system of industrial insurance, and the profession there is fully aroused. They demand adequate remuneration and representation on the insurance boards. The profession realizes its danger and is thoroughly united. The same dangers will soon confront us, says Chamberlin, and we must be able to present a united body to browbeating industrial organizations and insurance companies, or suffer the consequences.

THE TUBERCULIN REACTIONS AS DIAGNOSTIC AIDS

O. H. Benker, St. Louis, (Interstate Medical Journal, December), had attempted to diagnose early or suspected cases of tuberculosis by noting the reaction to intradermal injections of tuberculin. His technique is as follows: The place of inoculation over the biceps muscle is cleaned with alcohol; then with a sterile platinum needle and glass syringe, the eye of the needle pointing upwards, inject 1-10 c.cm. of the following five solutions: Phenol ½ of 1 per cent., O. T. (Koch) 1-10,000 mgrm., O. T. 1-1,000 mgrm., O. T. 1-100 mgrm., O. T. 1-10 mgrm., at a distance of 5 cm. from each other, allowing the solutions slowly to infiltrate the skin, producing a small papule. A positive reaction takes place as a rule several hours after the inoculation to 1-14 mgrm. and 1-100 mgrm., and often also to 1-1,000 mgrm., and even to 1-10,000 mgrm., showing greater intensity to the stronger solutions. After twelve to twenty-four hours the infiltration becomes visible and palpable and the inflammatory reaction increases accordingly. At the end of forty-eight hours it has reached its greatest intensity. There ma ythen be seen a small central tubercle encircled with a zone of redness, shading off gradually into the healthy tissues. The reaction fades away, as a rule, after two days, but persists at times for several weeks. The control injection of ½ per cent. phenol shows a slight erythema which becomes imperceptible after a few hours. A slight fever reaction is due to faulty technique in injecting some of the tuberculin subsutaneously instead of intradermally. The author, as the result of his experience with the method, draws the following conclusions: 1. That by the intradermal test, in doses from 1-10,000 to 1-100 mgrm., nearly all doubtful and early cases of tuberculosis can be demonstrated. 2. If after a 1-10 mgrm. injection no re-

action occurs, tuberculosis may be excluded. 3. From reactions to doses between 1-10 and 1-100 mgrm. the presence of a latent tuberculosis may be inferred.

BONE AND JOINT TUBERCULOSIS

In N. Allison's review of the recent literature on bone and joint tuberculosis (Interstate Medical Journal, December), one is struck by the directly opposite positions which surgeons take in the question of operative treatment. While such men as Alapy and Ely believe that most good can be accomplished by conservative treatment, Huntington is in favor of direct attack, believing that removal of the tuberculous focus at the knee, hip, elbow, and ankle is a feasible and fully accredited surgical procedure, and advocating operative attack even on early tuberculosis of the hip. Allison believes that such a stand is dangerous and harmful, and says that tuberculosis of the bones and joints, especially in children, has been proven to be most successfully treated by conservative measures. The mortality in the conservative treatment of hip disease is about that of the operative treatment, but the deformity is less in the former method, while the risk of abscess and general tuberculosis is not, as has been claimed, increased by such treatment.

PERSONAL

The Governor has named the following physicians as members of the Board of Trustees of the State Sanatorium, Milledgeville: Drs. J. C. Jarnigan, Warrenton, and Thomas R. Wright, Augusta.——Dr. Kingman P. Moore, for fifteen years a member of the staff of the Macon Hospital, has resigned.——Dr. Obe C. Gibson has been made city physician of Macon, vice Dr. Joseph W. DuGuid.——Drs. John S. Wells, Griffin, and Charles W. Miller, Atlanta, have been appointed members of the State Eclectic Medical Board to fill vacancies.——Dr. William L. Gilbert has been re-elected president of the Atlanta Board of Health and Dr. Willard E. Quillian has been elected vice-president.——Dr. Clarence B. Greer, Atlanta, has succeeded Dr. James Edgar Paullin, Atlanta, as pathologist of the State Board of Health.——Robert F. Maddox, formerly mayor of Atlanta, has been appointed a member of the State Board of Health to represent the Fifth congressional district, vice Dr. Willis F. Westmoreland, Atlanta, resigned.——Drs. Nicholas Peterson, Tifton, and Frederick D. Paterson, Cuthbert, have been appointed members of the State Board of Medical Examiners, succeeding Drs. John L. Walker, Waycross, and Samuel S. Gaulden, Quitman.

The more money The Journal of the Medical Association of Georgia makes out of its advertisements the less it costs the State Association to run the paper. This means that every member of the State Association has an interest in the advertising columns. If one business firm advertises and another does not, patronize the one that does. It is money in your pocket.

COST OF MEDICAL ATTENTION

The ordinary fees of the physician for visits and office calls it is generally conceded are in comparison with the increased compensation afforded other workers and the increased cost of living about fifty to one hundred per cent. too low. This very fact is responsible for some of the neglect about which we occasionally hear. Yet for the individual who suffers from some obscure and chronic complaint, the diagnostic preliminaries it is often desirable or even necessary to undertake bring the cost of thorough examination to rather a good-sized figure. His regular physician must often refer him to the specialist for an opinion, at least it is often necessary to refract in order to eliminate the obscure symptoms which may arise from eye strain. A urinalysis worth while should be worth at least $5.00 to any man who does it; then there are the blood pressure tests often so necessary, blood counts of which a number must frequently be made; perhaps a Wassermann, or lumbar puncture; then there are bacteriological examinations often necessary, and finally, if autogenous vaccines must be made, the cost is still increased. This does not even consider the vast number of surgical conditions which may not threaten life yet which it is often desirable to eliminate as causative factors in some obscure disorder. Notwithstanding the great advances that have been made in social prophylaxis and hygiene there is still a great deal of work for the physician. But the laity must be taught the importance of the diagnostic refinements of modern medicine.

They will then not so often be led astray by the snap diagnosis of the quack. Every man over thirty-five should have a careful urinalysis at least once a year, irrespective of the apparent state of his health. Other lines of business persistently create a demand for their products, and legitimately enough. We felt no need for player-pianos until the manufacturers educated us up to the player-piano stage by showing us that we could find considerable pleasure and profit in them. As guardians of the health of the public, not in a desultory and semi-philanthropic and hence semi-efficient way as is the case at present, but in an efficient, business-like and well-paid way, the physician can secure a great deal of good both to himself and to the public. We have as yet no idea what a splendid field here lies yet largely uncultivated.—Lancet-Clinic.

CHRONIC RELAPSING GONORRHEA AND ITS CURE

Chronic gonorrhea assumes two forms, says C. M. Whitney, Boston, (Interstate Medical Journal, November): the chronic continuous, and the chronic relapsing; the former is a perfectly obvious condition, the latter is most deceptive because it can exist without discharge, without shreds, or any other frank objective sign. Yet in these latter cases, with no apparent reason, the discharge returns in an acute form, perhaps years after the initial infection. For the cure of this condition, says Whitney, an accurate diagnosis is necessary. A careful history must be taken, especially as to the existence of complications with the acute attack, and a thorough physical examination, including the use of the urethroscope, is demanded. The treatment must be varied to meet the various conditions presenting themselves. The difficulty comes in saying when the disease is cured. Only after persistent and repeated examinations, by injections of silver nitrate, the use of the Kollmann dilator, sounds, alcohol, massage, and culture can we assure the patient that he is well.

TREATMENT OF BLADDER TUMORS

Several valuable conclusions may be drawn from J. R. Caulk's review of the recent literature (Interstate Medical Journal, November), on the treatment of bladder tumors. In the first place, the fact is becoming rather firmly grounded that bladder tumors must always be looked upon with great suspicion as to their malignancy, and this is the case even when microscopic examination reveals nothing more than a histologically benign structure. So much is this true that Scudder is led to write, "practically all bladder tumors cause death of the patient sooner or later." Caulk reviews the various operative procedures which have been advanced as a means of dealing with these growths, and comes to the conclusion that the two most promising are the endovesical, particularly with high-frequency current, as practiced by Keyes, Beer, and others for benign tumors, and the transperitoneal for those tumors which are clinically malignant. The latter operation was first suggested by Rydygier, and has in recent years been performed and perfected by Mayo. It is of such recent date, however, that no established statistics of cures, recurrences, and mortalities exist.

SURGICAL SUGGESTIONS

American Journal of Surgery

At the conclusion of an operation in which iodine has been used to disinfect the skin field, remove the excess of the drug by wiping with alcohol or ether. This may save the patient much discomfort.

Scrutinize carefully every "fistula" near the anus; a skin-lined sinus in the median line, in front of or behind the anus, is congenital and usually leads to a small dermoid.

Chronic tenosynovitis at the wrist may be differentiated from other swellings (e. g., lipoma) by fullness and fluctuation in the palm when the prominent area is pressed upon.

In carcinoma of the bowel local signs appear first and deterioration in health later, in intestinal sarcoma impairment of health is first noted and local signs appear later. In carsinoma obstructive symptoms are the rule, in sarcoma the exception. In carsinoma the growth of the tumor is relatively slow, in sarcoma it is rapid.

EARLY DIAGNOSIS OF PULMONARY TUBERCULOSIS

Walterhofer states that during the years 1909 and 1910, 88 and 78 of the 933 and 842 patients admitted to the Wilhelmsheim sanatorium proved to be free from the assumed tuberculous lung lesion. The diagnosis had been incorrect and he discusses the premises on which it had been based. The subcutaneous tuberculin test is the only reliable one of all the diagnostic means at our disposal, he says, adding that the reaction has to be considered from the point of view of the active or latent condition of the process; the focal reaction is the criterion for this. It was determined by auscultation in 91.67 per cent. while in only 8.33 per cent. did percussion give reliable findings. Any change in the room or in the patient's attitude or muscle tone may influence the auscultation findings. He remarks that Pottenger's rigidity of of the muscles is of no appreciable avail for early diagnosis. Walterhofer has the patient sit on a high chair with a low back, convenient for both the examiner and the examined. Examination in bed is entirely unreliable. The hearing of the examiner should be at its best, as fatigue and emotions aid in reducing the auditory capacity. Where all conditions for such auscultation and percussion are not available, it is futile to seek for a focal reaction after injection of tuberculin. He does not lay much stress on a febrile reaction alone. A history of hemoptysis or night sweats is not to be relied on in patients who are longing for a free course of sanatorium treatment. When the temperature in the rectum is found high after exercise and keeps high for over an hour, tuberculosis may be suspected although it must be borne in mind that the obese, convalescents, and those with unstable nervous system are liable to have a variable temperature at all times. The one unfailing sign of an active process is the local reaction in the diseased lung after a subcutaneous injection of a small dose of tuberculin, the appearance of rales or exaggeration of previous findings.

Uterine curettage has its chief indications in incomplete abortion, metrorrhagia as from submucous fibroids, inoperable carcinoma, etc. Its indiscriminate employment in chronic endometritis is to be condemned.

TREATMENT OF GOUT

A. E. Taussig (Interstate Medical Journal, December), in a review of the recent literature of gout brings attention to several theoretically interesting and practically valuable points. Gout is no longer regarded as due to an over production of uric acid, but rather to a faulty elimination of that substance. Uric acid is derived exclusively from the disintegration of substances contained in the nuclei of cells, whether these be contained in the ingested food or in the cells of the body which have undergone destruction. In gout the ability to handle uric acid seems diminished in every respect. The result is an accumulation of mono-sodium-urate in the blood until sooner or later the limits of solubility are passed and there is a deposit in crystalline form of the urate in the subcutaneous tissues or joints. This retention of uric acid may be watched in the urine. Normally when a person is given a large amount of uric acid forming (purin) food, there is a prompt and rapid elimination of urates in the urine. In gout this elimination is tardy and sluggish. At only one time does the urate content of a gouty patient tend to become high, and that is during the acute attack. At this time it may be increased to extraordinary amounts. These characteristics are very valuable in diagnosis. Taussig believes that the use of colchicum should be discontinued, as it does no permanent good and may do considerable injury to the heart. A purin-free diet is the only rational treatment to be employed. The potassium salts in potato and rice make these articles valuable in the dietary. Treatment with large doses of hyprochloric acid, from 50 to 90 drops of the concentrated acid daily, well diluted, has been found of immense value in the hands of some men. Kionka and His have recently used radium enmanations with wonderful success, and declare that the beneficial effects of natural waters are in direct proportion to their radio-activity. The action of the radium seems to be in its ability to change the less soluble urate salt into the more soluble, and thus facilitate its elimination.

A chronic gonorrhea in women may be due to uncured disease of Skene's ducts. After these are slit open with a fine scalpel or with the galvanocautery knife, the disease will be cured.

NITROUS OXIDE IN ADENOID AND TONSIL OPERATIONS

C. A. Gundelach, St. Louis, (Interstate Medical Journal, November), discusses the advantages of performing adenoid and tonsil operations under nitrous oxide anesthesia. Up to quite recently the great disadvantage in using this anesthesia in tonsil and adenoid work was the very short time of anesthesia after the anesthetic was stopped and the mask removed from the face. Since he has been using the Sluder guillotine method, however, Gundelach finds that it is possible to enucleate both tonsils and remove the adenoids in less than thirty seconds, before the patient has come from under the anesthetic. The writer uses the nitrous oxide without oxygen, and allows the patient to rebreathe the gas. He does not find it necessary to prolong the administration until marked cyanosis occurs, stopping as soon as there is loss of conjunctival reflex. Some of the advantages of this over other anesthetics in tonsil work are enumerated as follows: Its lack of disagreeable sensations to the patient; the fact that the cough reflex is maintained, a very desirable thing in operations about the pharynx; the lack of after effects; almost immediate recovery from the anesthetic; the lack of danger to the lungs, kidneys, and heart.

ATYICAL MASTOIDITIS

The most characteristic sign in cases of atypical mastoiditis, says E. B. Dench, New York, (Interstate Medical Journal, November), is the appearance of the fundus of the canal. A pronounced sinking of the upper and posterior wall of the external auditory canal, or sometimes an elevation of the floor of the canal is quite constantly present, and in a number of cases, occurring in late adult life, this one sign was the chief evidence of mastoiditis. Impairment of hearing persisting for two months or longer after an acute otitis is a strong confirmative sign of mastoid trouble. A persisting profuse otorrhea, resisting irrigation and free incision always means mastoid involvement and is sometimes the chief evidence of such involvement. An apparently spontaneous perforation on the posterior wall of the external auditory canal, simulating furunculosis, has been observed three times by the writer in the past half year. The X-ray sometimes gives great help in these doubtful cases. More experience will be necessary before this measure can be of absolute diagnostic value, but it very often proves useful.

THE MODERN TREND OF PSYCHIATRY

J. V. May, Fishkill-on-Hudson, New York, (Interstate Medical Journal, November), reviews the progress that has been made in recent years in our study of psychic diseases. The work is only beginning to yield results, thanks to such men as Kraeplin, Nissi, Alzheimer, and many others. Special attention is given to the "psychic trauma" of Freud, with the sex problem, dream interpretation and psycho-analysis. May believes that the outlook for psychiatry is exceedingly hopeful.

SURGICAL TREATMENT OF PUERPERAL INFECTION

After reviewing our present knowledge of the various factors causing puerperal infections and the results of surgical treatment of the condition, P. Findley, Omaha, (Interstate Medical Journal, November), comes to the following conclusions: 1. As yet we possess no reliable clinical or bacteriological guides in the early management of puerperal sepsis. 2. Early operative interference may do much good, but untimely or faulty measures produce much harm. 3. Retained placental tissue should be removed before the onset of septic infection. In virulent streptococcic infection it is better to encourage the spontaneous expulsion of placental remains with ergot, failing in which, mechanical means are called for. For this purpose the fingers are to be preferred to any curette. If for some reason the infected placenta cannot be removed, hysterectomy is to be considered. 4. Puerperal ulcers should not be curetted. 5. Hysterectomy to accomplish anything must be performed while the infection is confined to the uterus. 6. The timely ligation of veins may forestall a general infection. 7. Pus accumulations within the appendages, the parametrium, or the pelvic perioneal cavity are seldom highly virulent. In such cases drainage is usually best accomplished per vaginum.

FOURTH DISTRICT MEDICAL SOCIETY

Ninth Semi-Annual Meeting at Columbus, Ga., February 20, 1912

Call to Order—President.

Address of Welcome—Dr. C. L. Williams, Columbus.

Response—Dr. M. M. Hallum, Carrollton.

A Question of Personal Privilege—Dr. Neal Ketchens.

Pellagra—Dr. B. W. Allen, Columbus.

Details of Diagnosis and Summary in Treatment of Pellagra—Dr. Stewart R. Roberts, Atlanta.

Bronchitis—Dr. J. C. Griffies, Carrollton.

Pneumonia—Dr. J. B. Camp, Carrollton.

Medical Gynecology—Dr. D. S. Reese, Carrollton.

Scarlet Fever—Dr. C. L. Williams, Columbus.

Report of Two Cases of Tumor in Jaw—Dr. W. L. Cooke, Columbus.

Report of Cases—Dr. C. A. Dexter, Columbus.

Review of Literature on Diseases of the Stomach—Dr. R. P. Glenn, Columbus.

Preoperative and Post Operative Treatment of Appendicitis—Dr. H. Stokes Munroe, Columbus.

606 in Opacities of the Eyes, with Report of Cases—Dr. H. S. Slack, LaGrange.

Salvarsan—Dr. W. L. Champion, Atlanta.

When Should Fibroids of Uterus be Removed?—Dr. E. C. Davis, Atlanta.

Cystic Colloid Goitre, Simplicity of Operative Technique—Dr. W. S. Goldsmith, Atlanta.

The Futility of Specific Medication in the Treatment of Tuberculosis—Dr. J. Monroe Anderson, Pinedale.

Officers—Dr. C. A. Dexter, Columbus, president; Dr. H. J. Goodwin, Roopville, vice-president; Dr. Homer Boatright, Carrollton, secretary-treasuerr.

Reception Committee—Dr. Martin Crook, Dr. B. W. Allen, Dr. L. G. Beall.

Program Committee—Dr. Henry R. Slack, Dr. H. Stokes Munroe, Dr. Homer Boatright.

Time of Meeting—11 a. m. to 1 p. m.; 2.30 p. m. to 4 p. m.

Place of Meeting—Racine Hotel.

Dinner—1 p. m. Guests of the Muscogee County Medical Society.

GEORGIA MEDICAL SOCIETY OF SAVANNAH

At the annual meeting of the Georgia Medical Society, Savannah, Ga., held January 9, 1912, the following officers were elected for the year:

President—Dr. Victor H. Bassett.

Vice-President—Dr. J. L. Jackson.

Secretary-Treasurer—Dr. A. J. Waring.

Censor—Dr. T. J. Charlton.

Library Board—Dr. Geo. R. White, Dr. J. L. Jackson, Dr. V. H. Bassett.

Delegates to the State Medical Society—Dr. Herman Hesse, Dr. George R. White.

The society has had a prosperous year. In addition to the above officers, Dr. H. H. McGee was elected to fill a vacancy in the Board of Censors. Dr. John Train, Dr. Geo. White and Dr. H. H. McGee were elected members of the Board of Trustees to the Endowment Fund.

The Book and Journal Club of the Library Committee of the Georgia Medical Society, of Savannah, Ga., held a meeting at the United States Marine Hospital on Tuesday, February 6, 1912, with the following program:

1. Review of the Recent Literature on Pellagra—Dr. C. H. Lavinder, of the United States Public Health and Marine Hospital Service.
2. Review of the Literature of Snake Venom—Dr. Geo. R. White.
3. Book and Journal Reviews—Members of the Society.
4. Report of the Library Committee.

MINUTES OF MEETINGS

Richmond County Medical Society

December 11, 1911.

The regular meeting of the Richmond County Medical Society was held in the rooms of the Chamber of Commerce, Dr. G. A. Traylor, vice-president, presiding.

A paper was read by Dr. Honan on "The Early Diagnosis of Heart Diseases." This paper was afterward discussed by Dr. Eugene Murphey.

It was moved by Dr. Coleman, seconded by Dr. Murphey, that the Tenth District Society be invited to meet here some time

in January and that a committee be appointed to name the date and make the necessary arrangements. This motion was carried and the chairman appointed on this committee Drs. Lyle, Coleman and Murphey.

Applications for membership to the Society of Drs. Page, Partridge, Wade, Honan, and Cutter were read and referred to the Board of Censors.

It was moved by Dr. Kellogg, seconded by Dr. Allen, that Dr. Faville's name be balloted. This motion was carried and Dr. Faville was unanimously elected.

Dr. Traylor gave notice that he would introduce a motion at the next meeting to amend the by-laws so as to permit the combined office of secretary and treasurer to be separated.

The Society then proceeded to the election of officers, which resulted as follows:

President—Dr. T. D. Coleman.

Vice-President—Dr. N. M. Moore.

Secretary—Dr. W. C. Kellogg.

Board of Censors—Drs. Murphey, Levy and Littleton.

Delegates to the State Society—Drs. Caldwell and Mulherin.

There being no further business the Society adjourned to the dining-room of the Commercial Club, where refreshments were served.

JOHN C. WRIGHT, Sec.

January 23, 1912.

The meeting was called to order by President Coleman, twenty-four members being present. The minutes of the previous meeting were read and confirmed. Report of Chairman Lyle, who asked for time and reported progress.

Dr. Moore reported a case of malaria with interesting complications.

Dr. Battey reported a case of strangulated inguinal hernia, with resection according to Mayo's method and good recovery.

Dr. Oertel reported a case of syphilis of the larynx with unusual symptoms and recovery in one week from administration of 606.

Dr. Lyle read the paper of the evening on the subject of "Middle Ear Disease. Its Relation to Nose and Throat Disorders." Paper was discussed by Drs. Oertel and Kellogg. Discussion was closed by Dr. Lyle.

By unanimous consent the secretary was directed to cast one ballot electing Drs. Wade, Partridge, Cutter, Honan and Page, reported favorably upon by the Board of Censors.

A motion was carried to hold all regular meetings at the Chamber of Commerce, extra meetings to be held at the discretion of the officers.

Dr. Murphey called the Society's attention to a recent objectionable advertisement on the part of the Alexander Drug Co. A committee of three members on Public Policy was appointed to meet this and other such contingencies, consisting of Drs. Littleton, Oertel and Murphey. The committee was instructed to write to the Alexander Drug Co., expressing the Society's disapproval of their recent advertisements.

Meeting then adjourned.

W. C. KELLOGG, Secretary.

February 13, 1912.

The meeting was held at the Commercial Club, President Coleman in the chair.

The minutes of the previous meeting were read and approved.

Dr. Everard Wilcox reported a case of Pott's disease, involving lumbar and dorsal spine, with recovery.

Dr. Witherspoon, of Nashville, Tenn., then addressed the Society on "The Focal Lesion as a Causative Factor in Constitutional Diseases," with report of certain cases illustrating various points.

This paper was discussed by Dr. Battey, Jr.

Dr. Coleman read a paper on "The Clinical Phases of Arterio-Sclerosis."

Drs. Turner, Robertson and Martin made application for membership and were referred to the Board of Censors.

Meeting adjourned for refreshments.

W. C. KELLOGG, Secretary.

February 17, 1912.

A called meeting was held at the home of the president, Dr. Thos. D. Coleman, who entertained the Society. Dr. W. Gill Wylie addressed the Society on "Female Disorders Due to the Lack of Development," followed by Dr. Hugh Patrick, of Chicago, who spoke on "Alcohol Injections in Tri-Facial Neuralgia." These papers were intensely interesting and thoroughly enjoyed by the Society.

The Society then adjourned to the dining-room where a bounteous repast was served.

W. C. KELLOGG, Secretary.

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VINCENT'S ANGINA*

Theodore Eugene Oertel, M.D., Augusta

Synonyms—

Angina exudativae ulcerosis.
Angina diphtheroides Vincenti.
Angina chancreforme.
Angina ulcero-membranosa.
Angina ulcero-necrotica.
Amygdalite ulcerosa chancreforme.
Angina Plaut-Vincentshe.
Acute ulcerative lacuna tonsilitis.

The purpose of this paper is to present in brief form a review of our present knowledge of those pathological processes in which the bacillus and spirillum of Vincent play the chief role.

* Read before the Southern Section of the American Laryngological, Rhinological, and Ototogical Society, New Orleans, La., February 16, 1912.

Definition.—A broader definition than is usually given seems warranted and I venture to suggest the following:

An ulcero-membranous disease of mucous membranes, occurring chiefly in the mouth, throat, and respiratory passages, often characterized by extensive necrosis, adenitis, toxemia, and pyrexia, and due to infection with the B. fusiformis or spirillum of Vincent.

History.—Relative to the history of the disease I can do no better than quote from the able article of Berkley[1].

"The bacilli and spirilla were apparently known already to Miller (Plaut[2]) in the early eighties, but only as saphrophytes in the mouth.

"Babes[3] in 1893 appears to have described and figured the bacilli and spirilla as constituents from the gums in scurvy. In 1894 H. C. Plaut, of Leipzig, described

several cases of foetid membranous stomatitis and tonsillitis, in which spirilla and a spindle-shaped bacillus, called by him 'Miller's bacillus', were present in the exudate. This account attracted no notice.

"In 1896 H. Vincent[4], now of Paris, described and figured the same germ-combination, or a highly similar one, in certain cases of hospital gangrene seen in Africa.

"In 1898 Vincent and Bernheim, independently, and nearly at the same time reported the same germs found in pure culture in tonsil ulcers of a peculiar appearance.

"Vincent's accounts now finally gained the attention of the medical world and many subsequent, laborious, and exhaustive reports on the same topic from his pen have finally fixed his name to the affection as a convenient and now generally accepted designation."

Geographic Distribution.—Since its recognition as a pathological entity, Vincent's Angina has been observed and reported in nearly all quarters of the civilized world.

The disease appears to be quite common in England, France, Germany, Russia, and Spain. Numerous observers have noted it in this country. Calvo and Fernandez[5], and Martinez[6] report cases in Cuba, and Bloomberg[7] found it in the Philippines.

In this country doubtless it is widely distributed, though the literature upon the subject comes mostly from the North and Middle West.

Under the name of "Acute Ulcerative Lacuna Tonsillitis", Izlar[8], in 1899, described what is evidently a Vincent's Angina and I (Oertel[9]), in 1907 reported two cases occurring in my practice, the first to be recognized by me, though I now know that several times previously I overlooked the condition and made an erroneous diagnosis.

I have been able to find no other reports of the disease by Southern writers.

Bacteriology.—The organisms described by Vincent consist of a fusiform bacillus and a spirillum. He considers there is a symbiosis of the two forms. (Vincent[10].) The **bacillus fusiformis** is from 10 to 12m. long, from 1 to 2m. in thickness, often wider in the centre and pointed at the ends. Shorter, curved forms are sometimes seen, and often the distinct spindle shape is not marked. While it stains fairly well with all of the common dyes, carbol-fuchsin is preferable and gives a typical picture. When looking at a well-stained field of B. fusiformis, one is at once reminded of the peculiar appearance presented by the diphtheria bacillus in that the organisms present a marked irregularity of staining. Broad transverse bands, almost unstained, alternate with deeply stained granular areas and make a picture not easily forgotten.

The size, distinctive form and peculiar staining reaction render the organism easy of recognition.

The Spirillum is from 15m. to 25m. long, about 0.5m. in diameter, distinctly corkscrew in shape, having from two to five turns, and is quite actively motile.

With methylene blue it stains faintly and carbol-fuchsin is the most serviceable dye. Even with this agent and heat, it is much paler than the B. fusiformis, though distinctly visible with a 1-6 objective.

Cultures.—Both organisms have been cultivated on artificial media, but only feeble and short-lived growths occur.

Place[11] quotes as follows: "Dr. Lawrence R. Lea, director of the Pathological Laboratory, Montreal General Hospital, who has done work with the organisms from many of these cases, states in a personal communication: 'The organisms are anaerobic and grow best upon fresh blood serum from animals, best that of the rabbit, added to one-third or one-half of sugar bouillon. On this media the organisms grow without difficulty when they are associated with other organisms. . . . . I was able to isolate this organism in pure culture, growing it for a short time.

" 'Anaerobic plates were used. I have never been able to find spirochaetes living eight or ten hours after the cultures were made, nor have I seen anything that would make one think that the fusiform bacillus was one stage in the development of the spirochaetes, as has been suggested by Tunnicliff, in Chicago, and Wright, of England. Some of my mixed cultures were kept for over a month and no spirochaetes developed.' "

Associated Organisms.—Occurring so frequently in the mouth and respiratory passages, it is not surprising that Vin-

cent's organisms have frequently associated with them other pyogenic bacteria.

These may be accidental and in small numbers, or may evidently play an important role in the present pathological process.

In the latter category we may place the B. Coli Communis, pyogenic cocci, the Pneumococcus, and the diphtheria bacillus.

It may not be amiss to review the evidence in this direction. Bluhdorn[12] examined the throats of 222 patients for Vincent's organisms with the following results: He found one or the other, or both, in all but 27 of 76 patients with diphtheria; in all but 31 of 42 with scarlet fever; in all but 13 of 26 cases of streptococcus or staphylococcus sore throats; in 2 of the 4 cases of ulcerative stomatitis; in all but 10 of 31 cases of syphilitic mouth or throat lesions, and in all but 18 of 40 healthy persons. They were found generally close to the teeth in the "healthy" mouths.

Holm[13] has contributed a valuable study with tabulation of 73 cases of Vincent's Angina gathered from 265 cases of suspected diphtheria examined at the laboratory of the State Board of Health of Michigan.

Examinations were made by smears and cultural methods. His interesting results are as follows:

Total number of cases showing B. diphtheria, 118. Total number of cases showing B. fusiforms, 73. Of the latter 33 occurred in males and 40 in females. "A membrane was described in all but 4 cases, involving both tonsils in 38, one tonsil in 31, and extending to adjacent structures in 15. The highest temperature given was 103 3-5° F., the lowest 98 1-2° F."

In 35 cases diagnosed as diphtheria clinically, in which no diphtheria bacilli were found, the predominating organism in 27 cases as shown by smear examination was B. fusiformis."

The usual pyogenic cocci were associated in most of the cases with the B. fusiformis as shown in the smears and by subsequent culture. He concluded that Vincent's Angina is not usually excluded in examinations in cases of so-called pseudodiphtheria, because of the fact that the B. fusiformis does not grow upon the usual culture media and smear preparations are often not examined.

Pathology.—The disease is essentially an infection of mucous membranes, though at times the skin is involved. At first there is acute hyperaemia rapidly followed by a white, mebranous exudate, which is strongly attached to the surface and which soon becomes brownish, green, or almost black, the latter color probably due to extravasated blood. In typical cases rapid disintegration of underlying tissues with necrosis and sloughing occur. There is often extensive oedema of neighboring parts. The necrotic areas present an irregular granular surface covered with dirty detritus, pus and exudate. The surface bleeds easily, the ulcer is sharply circumsribed and presents a punched out appearance.

Infection of neighboring lymph nodes is frequent and may result in an adenitis of great severity terminating in necrosis and abscess.

Symptomatology.—On account of the varied intensity and location of infection with Vincent's organisms no definite symptomatology can be outlined. It is an error to consider the infection one of the throat alone, as the following evidence will testify:

Royster[14] reports a case presenting extensive ulceration of both tonsils, the buccal mucous membrane, gums, side of the tongue and roof of the mouth, with enlargement of the maxillary glands.

This patient was referred to him by a dentist who, himself, applied to Royster, six days afterward, for treatment of sore throat, which proved to be a Vincent's Angina.

Bruce[15] called attention to the disease in England, reporting ten cases in his first paper. In his opinion in the mild cases the fusiform bacillus was the more numerous, while in the severe ulcero-membranous types the spirillum was present in greater numbers than the bacillus. He also noted the relation of Vincent's Angina and ulcerative stomatitis.

The same author, Bruce[16], reports a case in which the larynx and trachea were involved, with rapid extension into the tissues of the neck, causing a foetid slough as low as the clavicle, involvement of the lungs and death on the eleventh day.

Rothwell[17] has seen three cases of severe bronchial infection, in which the B. fusiformis and spirillum of Vincent seemed to be the causative factors. One of these was an unmixed primary infection and recovery took place after three months.

Williams[18] reports a case of Otitis Media occurring in the practice of Dr. Jean V. Cooke, in which Vincent's organisms were found in pure culture.

Arrowsmith[19] reports a case of what seemed to be a primary infection of the larynx, necessitating hasty tracheotomy to relieve dyspnoea. The patient was discharged at the end of the third week. There was subsequent infection of the tracheal skin wound with localized abscesses about it. The pus from these contained B. fusiformis and spirilla in large quantities. A second tracheotomy was found necessary and pus from the trachea and sputum from coughing contained the organisms in pure culture.

He also reports a case of laryngeal involvement by Vincent's organisms implanted upon a pre-existing case of laryngeal tuberculosis.

Fisher[20] reports a case following the extraction of a tooth, the ulcer occurring in the wound, anda nother of ulcerative stomatitis in an insane woman wit hlesions of the tongue and gums.

Mackie[21] mentions a case of ulceration of the gums in which he found spirilli in large numbers, and short "diphtheroid" bacilli in masses, but none of the longer fusiform forms.

Place[22] found Vincent's organisms in all of seven cases of Noma.

Rosenberger[23] reports a case of Noma due to Vincent's organisms.

Crandall[24] reports a case in his dental practice in which the infection spread from the tonsils to the gums.

Place mentions in his series of eighty cases two of primary infection of the nasal mucosa with caries.

Secondary infection of the prepuce is reported by Queyrat[25], the primary ulcer being of the tonsil.

It will be seen from the above that infections with Vincent's organisms may be both diverse in location and varying in intensity.

Fever.—Considerable pyrexia is often present, though the milder infections may create only a local disturbance.

Blackwood[26] reports nine cases. Seven of these were mild in type, yet all of them exhibited a sudden rise of temperature reaching as high as 103° F.

Many similar reports may be cited.

Duration.—The duration of infections with Vincent's organisms is from a few days in the milder cases to weeks and months in the severer forms.

Arrowsmith[27] reports a case of tonsillar infection lasting about two months.

One of my own cases came to me with the history of having been treated by her family physician for three years for "tuberculosis of the throat."

The infection was of the left tonsil and yielded within a few weeks to appropriate treatment.

Of the sixteen cases that I have seen since I have been able to recognize the condition, I have twice seen two cases at the same time occurring in brother and sister. In one instance the patients were children, aged ten and twelve years, and in the other, young adults. All of my recognized cases have been tonsillar in origin. From my limited experience I am in accord with Wherry[28], who contends that the usual tonsillar infection is a deep invasion of the lacunae with lateral ulcerations.

Contagiousness.—The fact that often infections with Vincent's organisms take place at the same time, or in sequence, in persons closely associated, would lead to the supposition of a certain degree of contagiousness. Numerous instances are on record of infections of members of the same family, as in my own cases already mentioned.

Fraley[29] reports an epidemic occurring in an institution for children. There were nine cases of mouth and tonsillar infection, probably conveyed by a common drinking glass.

All of the cases recovered and in none of them was there an elevation of temperature.

Diagnosis.—The diagnosis of infection with Vincent's organisms must rest entirely upon laboratory methods. I would emphasize this assertion because of the frequent association of complicating organisms of the first importance, notably the diphtheria bacillus and the S. Pallida. Mixed infection with the pyogenic cocci

may also be of great importance from a therapeutic standpoint.

In all cases of throat or mouth infection, in fact, wherever it is possible to obtain pus from the infected part, smears should be made and stained with carbolfuchsin and carefully examined with the microscope. In the majority of cases this, in competent hands, will be sufficient to establish the diagnosis.

Common sense will dictate when the necessity arises for more extended investigation. Upon the slightest suspicion of a complicating diphtheria, cultures should at once be made.

In suspected luetic complications the Wassermann test should be resorted to. Neither must the possibility of accompanytubercular infection be lost sight of, though probably this complication is exceedingly rare.

Prognosis.—In the tonsillar form the prognosis is good. Fatal cases sometimes occur, as evidenced by that reported by Royer[30], of a tonsillar infection during pregnancy, beginning five days before labor and terminating in death.

Noma is always a serious condition, which too often ends in the death of the patient.

Infections of the middle ear and mastoid are also grave, as are those of the lower respiratory structures.

Treatment must be dictated by the location of the infection and symptoms of the individual case.

Seen early the tonsillar cases may possibly be aborted by carefully cleaning out the infected crypts and disinfecting them with carbolic acid, full strength, thoroughly applied with a cotton-tipped probe.

One of my cases of double tonsillar infection, in spite of such treatment, went from bad to worse, but resulted in a cure at the end of six weeks of serious illness and almost entire sloughing of both tonsils.

Silver nitrate in ten per cent. solution has proven of value in my hands, most of my cases of tonsillar ulceration yielding promptly to its daily application after cleansing with dioxygen and cotton swabs.

Place recommends applications of a solution of chromic acid of two per cent. strength.

In mouth and throat infections, crushed ice and the ice bag externally afford relief.

Tonics and other usual measures will of course suggest themselves as occasion demands.

In view of the fact that Salvarsan has proved of value in so many infections with spirilla it would seem that we would be warranted in administering it in cases of noma and other alarming conditions due to infections with Vincent's spirillum, with the hope that good may result. I certainly shall not hesitate to employ it upon the first occasion when such a case falls into my hands.

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SIXTY-THIRD ANNUAL MEETING, AUGUSTA, APRIL 17-19, 1912

CYSTIC COLLOID GOITRE*
(Operative Technique)

William S. Goldsmith, M.D., Atlanta

Of all the hypertrophic conditions of the thyroid gland colloid goitre is the most common. The large number of individuals afflicted with this distressing deformity represents only a certain proportion of cases in which marked changes have occurred, either structurally or in the function of this important gland.

In this country the prevalence of goitre does not seem to be endemic. In continental Europe it would appear that the disease occurs in large numbers in circumscribed localities. In Switzerland and Austria the disease is so frequently observed that the clinics in Berne and Vienna are crowded with goitre cases.

Notwithstanding these facts, I feel that the brilliant work of Kocher, the pioneer of modern goitre surgery, has so impressed itself upon the profession and people of that section that recognition of the disease in all forms is early appreciated and relief quickly sought.

The limitation of this paper does not admit of discussing the many phases of disease of the thyroid, other than large goitre, which is the type generally regarded by the laity as being operable.

The development of cystic colloid goitre is interesting and I cannot serve my purpose better than to quote Ochsner's description of this form of hypertrophy:

"In this type the amount of colloid is so greatly increased that the follicles of the gland are often greatly dilated, and the epithelium lining the same more or less flattened, or finally completely destroyed, by the pressure of the increased colloid content.

"The septa between neighboring follicles may be broken through by strong pressure and subsequently absorbed. If sufficient dilatation and confluence of follicles is brought about by this process, we can finally have the appearance of considerably sized cysts."

Aside from the disfiguration of the neck, there are four conditions which stand out as abundant reasons for surgical intervention.

First, deviation of the trachea with probable thinning and flattening of the canal with attending respiratory difficulties.

Second, discomfort of swallowing, due to fixation of the tumor along the anterior wall of the oesophagus.

Third, temporary, and occasional, permanent loss of voice on account of pressure upon the laryngeal nerves. Complete degeneration of the nerve results, of course, in permanent aphasia.

Fourth, headache, dizziness and fullness of the head, due to pressure upon blood vessels.

Collapse of the trachea during operation as the tumor is lifted from its attachments, is a complication corrected by an immediate tracheotomy. The exercise of caution at this period of the operation and the necessity of leaving the supportive structures about the trachea intact lessen materially the damage of collapse.

Also, due regard of the laryngeal nerves and the confinement of the enucleation to the gland itself, leaving in its entirety the capsule, will prevent permanent injury to the nerve. The trauma incident to the operation temporarily affects the nerve and causes a degree of hoarsenes which rapidly disappears.

In these goitres there is undoubted evidence of this important fact: namely, that the large deposit of colloid is no indication that the function of the gland is perverted: that, as stated above, the development of cysts negatives the activity of this excess of colloid and that after all the gland maintains a "working" area which carries on the function of a normal thyroid. Investigate closely these cases and we are strongly impressed with the excellence of their general health.

If, in operation, we remove this remnant of gland tissue, this "working" thyroid, symptoms of myxoedema will appear. Again, at operation, it is hard to demonstrate good thyroid from diseased thyroid. But, it is easy and safe to leave sections of the gland along the posterior capsule and about the trachea to insure a continuance of function.

Another important detail to be remembered is the preservation of the parathyroids. The observance of the care in preserving the "working" remnant of the gland will also serve to abundantly protect the parathyroids.

* Read at meeting of the Fourth District Medical Society, Columbus, Ga., February 20, 1912.

The surgical equipment necessary for this operation amounts to little. With the exception of a large number of artery forceps the variety of instruments is of no consequence. At least three dozen artery clamps may be necessary in the easiest case, but prompt ligation of the numerous vessels affords ample supply of forceps and at the same time clears the operation field of cumbersome obstructions.

The operator must have a working knowledge of modern surgical technique and a proper conception of the surgical anatomy of the structures of the neck. Good team work in the operating room adds materially to the execution of the surgeon and hastens the completion of the operation.

Patients are prepared in the usual manner, with head and shoulders elevated. A small roll placed under the neck throws the head slightly backward, which increases the anterior neck space and brings the tumor and other structures into easy range of attack. A collar incision carried from one border of the goitre to the opposite side, low down on the inferior surface, exposes the platysma, which should be carefully incised and retracted. One or both sterno-mastoid muscles are incised, if necessary, to gain free access to the tumor. The sterno-hyoid and sterno-thyroid are also cut through in their upper half to avoid nerve interference.

The capsule of the gland is now brushed aside and veins ligated. If possible, catch veins between clamp and cut and later ligate. Continue the dissection by using blunt pointed scissors between the gland and capsule, opening them continuously, thus serving to separate the slight attachment with great dispatch. This manipulation with the scissors is of great assistance and is perfectly safe, since the structures are not cut, but separated. Close observance to working along the surface of the gland will insure protection to the nerve, parathyroids and the arteries. In clamping the thyroid arteries, a bight of the gland is a precaution advised. This is followed by carefully tying the vessel with appropriate catgut and with ends left long, as guides, until the completion of the operation.

In unilateral enlargements the enucleation of the goitrous gland suffices, even if the other lobe is larger than normal. In this event all of the affected lobe should be removed.

If bilateral, both lobes should be attacked, removing one in its entirety and leaving as a working thyroid a small portion of the other. Or, if there is some hesitation concerning the entire separation of one lobe, a portion of each may be left along the posterior capsule and trachea.

The final treatment of the wound and its closure are important points of the operation, as a rapid and satisfactory convalescence is the rule when, in a general way, the following technique is carried out.

A clean, dry wound and drainage secured with a soft rubber tube is an essential detail. Careful suturing of the long muscles is the first step in the closure. Plain catgut is the suture material, and return of function of these important muscles is prompt and permanent. Accurate approximation of the platysma with a continuous catgut suture running around the drainage tube, which is placed in the median line, assists in bringing the skin suture line into easy apposition. This independent closure of the platysma also prevents separation of and widening of the scar. The skin is closed with a subcutaneous catgut stitch. The inserting of this stitch minimizes the scar line, which is a particularly desirable point with white patients.

The drainage tube is removed in forty-eight hours and future drainage is not a necessity.

These patients are given rectal salines for the first thirty-six to forty-eight hours, and stomach feedings resumed as soon as the comfort of swallowing will permit.

A temperature of 101 to 103 is not unusual, and if the drainage is effective and the bowels are in good condition, nothing is done looking to the reduction of this degree of fever. Indeed, when we consider the amount of trauma, such temperatures are readily explained.

These patients should be urged to sit up in forty-eight hours. Posture facilitates drainage and encourages the individual to further effort in getting well and practically a complete healing of the wound is secured by the end of the first week.

Dr. J. Righton Robertson announces the opening of his office in the Miller Walker building, Augusta.

PNEUMONIA AND ITS TREATMENT *

J. B. Camp, M.D., Carrollton

The vital function of the lungs is to aerate and depurate the blood, and any impairment of that function is attended with consequences which are disastrous in direct proportion to the amount of impairment. If a number of bronchioles are plugged up, so as to exclude the air from the pulmonary vesicles to which they lead, or the vesicles themselves are infiltrated, it makes no practical difference whether the plug is of mucus or fibrin. In either case the function of the part involved is impaired, and the act of respiration is to this extent curtailed. The etiology of the two varieties of pneumonia, therefore, only shows a distinction without a difference. While lobar and lobular pneumonia exhibit but trifling differences in their causation and symptoms, their morbid anatomy reveals marked peculiarities which serve to distinguish the one from the other.

In croupous pneumonia the pathology does not differ materially in the child and adult. There is, first, hyperemia, or congestion, followed by solidification or hepatization, the affected tissues being of a brick color, friable, and resembling liver. The hepatized lung is swollen and shows the imprints of the ribs on its surface. Slight pressure causes a bloody fluid to ooze from the cut surfaces, without a trace of air bubbles. Sections of lung which have escaped inflammation have a streaked or speckled appearance, which is due to the bronchi and their vessels. Projecting from the cut surfaces are multitudes of minute elevations, which are the alveoli distended with a viscid exudation. Under the microscope this exudation is seen to be composed of a granular form of albuminoid matter, with red or white blood corpuscles and an abundance of new cell-formations in the air vessels. The morbid appearance of the third stage, or the stage of gray hepatization, is variable. This is the stage of resolution or absorption; yet it may retain many of the characteristics of the preceding stages. The lung is still solid and contains no air, but gradually the infiltration undergoes liquefaction and absorption.

The lesions of lobular or broncho-pneumonia differ somewhat from those described, especially when occurring in children. There is a greater dissemination of the morbid changes. The bronchial mucous membrane is more markedly involved, and pours forth an abundant secretion, which naturally finds its way to the most dependent portion of the lung. The inflammatory process, not being restricted as in lobar pneumonia, spreads irregularly in various directions. It involves the bronchioles, and the air cells, and spreads outwardly to the bronchial walls, and the surrounding connective tissue. From this it will be seen that lobar pneumonia is pathologically a primary affection, involving the parenchyma of the lungs, and showing but little tendency to involve the bronchioles or the vesicles; while lobular or broncho-pneumonia is, as a rule, a secondary affection, involving the brochioles and then the alveoli by an extension of inflammation along their mucous lining. Lobar pneumonia produces solidification of pulmonary tissue by blood stasis; lobular pneumonia by increased formation of cells, pus, or other products of inflammation. Lobar pneumonia may be associated with bronchitis; lobular pneumonia is always so associated. The former always involves a whole lobe or lobes, or a goodly part thereof; while the latter may involve but a small portion of the lobe.

Treatment

Osler says: "Pneumonia is a self-limited disease, and runs its course uninfluenced in any way by medicine. It can neither be aborted nor cut short by any known means at our command. Even under the most unfavorable circumstances it will terminate abruptly and naturally without a dose of medicine having been administered. So, also, under the favoring circumstances of good nursing and careful diet, the experience of many physicians in different lands has shown that pneumonia runs its course in a definite time, aborting sometimes spontaneously on the third or fifth day, or continuing until the tenth or twelfth. We have, then, no specific treatment for pneumonia. The practitioner may bear in min dthat the patient is more often damaged than helped

* Read at meeting of Fourth District Medical Society, Columbus, Ga., February 20, 1912.

by the promiscuous drugging which is still only too prevalent.''

In spite of the above clear-cut statement by one of the greatest physicians of modern times, many of us continue to drug our patients in this disease to their detriment!

While no drug is curative, strictly speaking, we possess the means of saving many patients who would certainly die if left alone to Nature. In this disease, it is true, the doctor should be a watchman **all** the time, and only a therapeutist when necessity arises. Pneumonia is a condition which demands that the physician have a thorough knowledge of the possibilities of medication; but at the same time we must keep clearly in mind the pathology of the condition and the physiological action of our remedies. A drug which apparently may be indicated on account of one of its actions, may produce a death blow by another effect. Here ignorance is criminal; for while cooling the fevered patient's brow we stab him in the heart, or vasomotor system.

General Management.

A patient suffering from pneumonia should be kept strictly in the recumbent posture until several days after the crisis. Food should be administered in such a way that the patient will not have to sit up to take nourishment. The sick room should be well ventilated. There will be no danger of the patient taking ''cold,'' as the high temperature prevents this. The patient should be isolated, both to prevent infection of others, and because they need mental, as well as physical rest.

As a routine procedure it is well to administer from three to six grains of calomel, to be followed by a saline, if a good movement of the bowels is not produced by the mercurial.

The diet should consist principally of milk, broths and egg-water, liquid-beef preparations being added to suit the case. As this disease is a depressing one, the diet should be of the most nutritious sort, and easily digested. Over-feeding should be avoided as much as under-feeding, for a distended stomach, or bowels, may easily interfere with an already over-taxed heart. Good feeding, absolute rest during the waking hours, a proper amount of sleep, and keeping the bowels open, are generally the points on which success or failure depends. To summarize: Put the patient to bed in a well-lighted and well-ventilated room. Keep him at rest, both mentally and physically. Give plenty of cold water at brief stated intervals. Feed him light, but nutritious diet, and keep his bowels open.

Symptomatic Treatment

Probably the first symptom that attracts our therapeutic attention is pain. This is often sharp and severe. It is best relieved by a hypodermic injection of one-eighth or one-fourth grain of morphine. Frequently a brisk counter-irritation apulied over the seat of pain gives relief. I have found that the local application of a mixture containing methyl, saticylate, iodine, and camphor liniment, acts well, and perhaps has some good influence over the disease. I do not countenance the use of poultices. They cannot possibly do any good except in relieving pain, and may do a great deal of harm.

Fever.—Unless the temperature rises above 104° F., it should be left severely alone. This rise is not only without danger, but is actually beneficial; it is Nature's effort to control the disease. There is nothing more pernicious than the constant attacking of a pneumonia temperature wit hcoal-tar derivatives or arterial sedatives. It has been clearly demonstrated that pneumococci grow to perfection at the normal temperature of the body, but not at all at a temperature of 104°. Besides, fever produces leucocytosis, and, as is well known, cases without an increase in leucocytes are almost always fatal. So the patient's general condition, and not the temperature alone, must be the guide in the use of antipyretic measures.

Some patients bear a much lower temperature than 104° very badly. In these cases antipyretic drugs should be used, if at all, for their effect on the nervous system alone. The application of cold is the best means of reducing temperature. Large ice-bags may be applied to the chest and head. In some cases the sponge bath acts well, and some writers boldly declare that the temperature of pneumonia, when excessive, should be treated by the cold tub-bath. While this latter procedure may be satisfactory in hospital practice, it can-

not be generally recommended, for various and obvious reasons. The occasional use of coal tar remedies in small doses, carefully guarded, is not objectionable. The fever of pneumonia, it must be emphasized, is not a symptom that demands treatment, unless it goes over 104° F.; or unless the patient is showing marked intolerance to a febrile rise. Under no circumstances should an attempt be made to reduce the temperature to normal. Generally reduction of a degree or two is all that is necessary.

Cardiac Failure.—The use of stimulants in cardiac failure, in pneumonia, requires very careful attention. There are many patients who require no stimulation at all. The practice of giving every patient suffering from pneumonia whiskey, digitalis or strychnine, is a therapeutic outrage. There are times when these patients need stimulants, but the drug to be used, and the time to use it, should be selected with care. If the pulse goes over 120; if the first sound becomes weak; if the pulmonary second sound loses its accentuation; or if marked nervous symptoms appear, then a stimulant is indicated.

Alcohol is not only a stimulant, but a food as well. It increases the force of the heart by directly stimulating it, removes, to a certain extent, the peripheral resistance, and hastens the movement of the blood current. In other words, it restores a disturbed equilibrium, and overcomes passive congestion, although a great deal of experimental evidence has arisen within the past few years, endeavoring to show that alcohol is not a stimulant to the circulation, inasmuch as it does not raise arterial pressure. I use it in pneumonia because clinically it has proved to be of great value, when it is given at the proper time and in a proper manner. Wood says that when the odor of alcohol can be detected on the breath of the patient, too much is being given. In the general improvement of symptoms we have, however, a faithful index as to how much to give. On the other hand, if the patient becomes nervous, the circulation more "irritable", the tongue and skin dry and parched, and the entire picture becomes manifestly worse, it is certain that too much alcohol is being given. The human body is capable of conserving only a very limited amount of alcohol. In febrile conditions, it must be emphasized, this amount is considerably increased. Therefore, in amounts easily assimilated, alcohol is a food and imparts force. If more than can be assimilated be given, however, the food becomes a poison.

It has been clearly proven that the pneumococci paralyze the vasomotor centers, besides weakening the heart. Hence, much of the circulatory disturbance must be attributed to paralysis of the vasomotor system, as well as to a weakened heart. All measures, therefore, which increase the work of the heart, or in any way interfere with its functions, should be carefully avoided. According to Dr. Powell, the heart dangers are three in number—impaired nerve power, impaired nutrition, and mechanical dilation. To overcome these nothing is so satisfactory as digitalis. This drug stimulates the pneumogastric, slows the heart's action, strengthens its beat, and tightens up the vasomotor system. Under its influence the heart empties itself more completely; is supplied with better blood, and does its work in a quiet, steady manner. Digitalis should not be given until it is clearly indicated. A weak, fast, empty pulse calls for its administration, especially if irregularity in the heart's rhythm is present. It is best given in the form of a standardized fluid extract at intervals of from four to eight hours. It is well to bear in mind that high temperatures prevent the action of this drug, and to remember that it takes several hours to manifest its full effect. Therefore it cannot be relied on in emergencies, such as heart failure following the crisis.

Perhaps the most universally used drug in pneumonia is strychnine. Here we have an illustration of the use of a drug without a clear and perfect understanding of what we are trying to accomplish. Strychnine is a drug that goads the system to increased endeavor, and does not aid it simultaneously. It is a drug to be used at the crucial moment, when it is necessary for the system to make one grand effort to pull itself out of a desperate situation. The constant use of this drug keeps the nervous system on a "wire edge", and will undoubtedly result in more harm than good. Strychnine, therefore, should be reserved for the crowded hour, when a

sharp, quick attack upon the impending depression by the administration of a twentieth or fifteenth of a grain hypodermically, will call forth the patient's best effort to recover. Another drug of great value for its effect on the vasomotor system is belladonna. This drug also should only be used when symptoms of arterial depression appear. It is of immense value just following the crisis, when the patient's skin is cold, pale and clammy. Its use is indicated especially in the later stages of the disease, and also whenever the blood paths show signs of relaxation. In no other way can belladonna be of service in pneumonia. The mistake should be avoided of giving this drug early in the disease, with the idea of relaxing the blood vessels and thus aiding the inflamed lung. Belladonna never lowers arterial pressure unless it is given in toxic doses. Then it paralyzes the vasomotor centers. Caffein and camphor are reliable heart stimulants, and are sometimes useful.

I shall sepak of the use of nitroglycerine only to condemn it. It produces all harm and no good. It cannot be regarded in any sense as a heart stimulant, but it does most certainly paralyze the pneumogastric and the respiratory and vasomotor systems. It also destroys the oxygen-carrying properties of the blood. No one who clearly understands the physiological action of this drug can be excused for killing a patient with pneumonia by its use. I am fully aware of the fact that some writers advocate its use late in the disease, when the right heart is vainly struggling to empty itself. This drug will most certainly empty the heart, but unfortunately it will liberate the soul at the same time. It is said to be indicated in some cases associated with arterial sclerosis; but it is in such cases that it is most likely to kill and least likely to produce the desired result. I notice that most writers advocate giving this drug at intervals of from three to six hours, and as the effect of nitroglycerine probably does not last over thirty minutes, I am constrained to attribute their success from its use, in a measure at least, to the goodness of God.

The use of diffusible stimulants is a very valuable procedure and are best given in the form of a mixture composed of equal parts of Hoffman's Anodyne, aro. spts. of ammonia, spts. of lavender, and brandy. A teaspoonful of this may be given every one or two hours, well diluted with water, and continued as long as indicated.

Cynosis.—Beginning cynosis calls for respiratory stimulants, the best of which is strychnine. Atropin is not so good a respiratory stimulant as was once believed; and as poisoning is easily produced, it must not be used carelessly, if at all. The fact that the dyspnea is markedly relieved immediately after the crisis, proves that cynosis and dyspnea are not altogether due to mechanical causes, but are largely due to the pneumococci infection. In tiding patients over sudden attacks of cynosis and dyspnea, plenty of fresh air is most useful.

Nervous Symptoms.—These consist chiefly of headache, restlessness, delirium, insomnia and hiccough. Generally they can be successfully combatted with small doses of morphine hypodermically. It is best in all these conditions to give small doses of the medicines recommended, and repeat the dose until the desired effetc is produced.

Cough.—The cough in pneumonia is not generally distressing enough to require any treatment; but when it does call for attention, small doses of heroin by the mouth, or morphine hypodermically, will relieve.

Vomiting—Is sometimes severe and distressing. It is very important to remember that with some patients opium in any form causes nausea and vomiting, and that it is useless to try to remedy this condition in these patients while continuing to give this drug. Cracked ice sometimes acts well when everything else fails. Continued and severe vomiting calls for stomach washing.

This practically covers the symptomatic treatment of pneumonia. In the treatment of this disease I have purposely not mentioned venesection and arterial sedatives, because their field of application is so limited as to make it a rare chance to use either to the betterment of the patient. As a rule, the average patient when seen has passed the time for venesection or arterial sedatives, when all depressing measures should be left severely alone, and an expectant and stimulating treatment adopted.

SALVARSAN *

W. L. Champion, M.D., Atlanta

At the meeting of the Medical Association of Georgia at Rome last April, I presented a paper on Salvarsan, or "606", in the treatment of syphilis. At that time I had only three months' experience with the use of the preparation, and most of the injections were intra-muscular.

During the past eleven months I have given, in private work, two hundred and fifty intravenous injections, and the results obtained from this method of administration have been more satisfactory. In fact some of the earlier cases, where there was a relapse or very slight improvement, I am satisfied were due to the preparation not being properly absorbed. I stated in my former paper that in none of the cases where the intra-muscular injection was used, was it necessary to open up at the sight of injection on account of abscess or other cause, but the report might have to be changed later. Three of the cases injected during February and March had an accumulation of serum containing the arsenic preparation which made a lump about the size of a hen's egg that required opening and drainage. One was infected, which was opened, and discharged a large quantity of pus.

I have used only five intra-muscular injections during the past eight months, and unless my views changed very radically, I will not use the preparation in the muscle again unless there is some contraindication for its intravenous use, such as a grave heart lesion.

Brilliant results are seen from the intra-muscular injections, but there will necessarily be some failures, and the pain and soreness produced at the sight of injection makes the intravenous the method of choice. Two hundred and forty of the intravenous injections were given in the office, the patient required to go to his room immediately after the injection, and remain there until the following day. Most of them are out next morning feeling as well as usual.

My experience has been that it is perfectly safe administered in the office, but there is a possibility of an accident and I would prefer to use it where the patient could remain in bed, but the publicity given when used in a hospital or at home makes most patients insist on the office treatment.

When I first commenced to use the preparation, I noticed some patients were made deathly sick two or three hours after its administration, while others were not. There was nausea, vomiting, headache, and diarrhea. This is due to the endotoxins produced from the killed germs. Give a patient a dose of "606" who has a chancre, macular eruption, and the usual acute symptoms, who has not had any previous treatment, and he will become very sick from the dose. This will not be the case if the patient had had a dose of "606", or has been previously treated with mercury and potash.

In the first fifty cases treated the eyes were examined for optic-atrophy. Since, I have had no examinations made as some of the best authorities state it is unnecessary, and my conclusions are the same. I have used the preparation in iritis, choriditis, keritis, and see no reason why it should not be used in these conditions when of syphilitic origin. I would not administer the preparation intravenously to a patient with a serious heart lesion, but have used it on patients with albumen and casts in the urine without any apparent injury. Two patients of the number treated developed a decided jaundice, which passed off in a few days. One developed herpes zoster, which is occasionally caused by arsenic. One of the most important points to be determined is the dose. If not large enough the evidence of the disease will not disappear rapidly and relapses will occur.

I gave a patient a full dose intravenously in June, who had a chancre, macular eruption, over the entire body, headache and usual muscular pains. He has not had any other treatment since the one injection, has now no evidence of the disease, had a Wassermann made on the 5th of January (seven months since the injection), which was negative. Now this looks like a cure, but what this patient's condition will be, without treatment, six or twelve months later, time will only tell.

Salvarsan will cause a chancre to heal in a few days, mucous patches to vanish like magic, and syphilids of the palms and

* Read at meeting of the Fourth District Medical Society, Columbus, Ga., February, 1912.

soles respond rapidly, but if the skin eruptions are of several weeks' duration, they are slow to disappear, but respond more rapidly than from mercury. Where quick action is needed nothing will supplant it. One dose of the preparation properly administered is equal to several months' treatment with mercury and potash. Some of the results obtained from its use are marvelous. I recently had a patient with a mixed infection, who had been circumcised by another physician, with the result that the cut surface became infected. The patient had not slept any in several days; an ordinary dose of morphia would not quiet him. The night following the intravenous injection of Salvarsan the patient slept peacefully without a narcotic. In cases o fcerebral syphilis with intense headaches, relief is obtained in a few hours. Before I began to use Salvarsan, patients that were being treated by me would return at intervals with mucous patches in the mouth, or other lesions. These evidences of the disease were discouraging to the patients and not pleasant to the doctor. At present I am not treating a single syphilitic that has not had a dose of "606", and during the past twelve months all the patients that have been under my observation are free of mucous patches or other evidences of the disease, barring a positive Wassermann reaction.

It is essential in giving "606" that it should be done with surgical cleanliness. In nearly all cases a needle can be used to thrust into the vein without making an incision. When this is done it is advisable to have two containers—one with the Salvarsan solution, and the other with normal salt solution—using a three-way stop cock so as to first allow a small quantity of the salt solution to flow into the vein to see that the needle is in proper position—then cut in the Salvarsan solution. When a cannula is used and inserted into the vein, it is not necessary to have the container with the salt solution as there is no possibility of leakage. I have been using both methods, but in some cases the veins are so small or deep that it is not advisable to use the needle without first exposing the vein. If the solution is prepared according to the directions given on the wrapper around each ampoule, and the needle inserted properly into the vein, there will be no swelling or irritation of the surrounding tissues.

In conclusion I will state I am positive that a single dose of Salvarsan will not cure every case of syphilis; I do not know that a single dose will cure any case of syphilis. It will take several years to determine if this is possible. It is my rule to repeat the dose of "606" in three or four weeks and place the patient on mixed treatment.

The preparation is in an experimental stage; we have not determined accurately the amount to give, when to repeat the dose, nor how long to continue its use; so the patients who have placed themselves in my care, I place on small doses of mercury and potassium iodide, as I do not care to rely entirely on Salvarsan until it is used over a longer period of time.

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EXCISION OF THE EXTERNAL ORGANS OF GENERATION FOR OBSTINATE PRURITUS*

R. C. Franklin, M.D., Graymont

This paper is submitted to you, not because the subject is novel or startling within itself, but because it presents some surgical points of interest to which I wish to call attention.

Pruritus vulvae is a symptom of which all of you are familiar. Much has been written on this subject. Many theories advanced as to its cause, and many drugs and therapeutic measures suggested for its relief and cure. Yet all of these amount to nought when we meet with those intractable conditions, where all of the known or likely causes have been carefully sifted in an effort to arrive at the proper etiological factor or factors, and we find no known remedy to cure the condition, and we are forced to turn for relief to the field of surgery.

Many causes have been advanced and many now generally accepted. Among them are: Fibrosis, affecting chiefly the nerves and nerve endings of the clitoris and labiaminora; any abnormal and unhealthy condition of the genital organs, including all irritating discharges from the bladder, vagina and rectum; atrophic

* Read at meeting of the First District Medical Society, Millen, Ga., February 29, 1912.

changes due to menopause and old age; pathological conditions of the external and internal organs of generation, and also of the bladder and rectum; cutaneous diseases of the vulva; deranged metabolism, and any toxic materials which may be in the blood; dietetic and hygienic errors. Exceptionally, it may be due to some reflex irritation provoked by intestinal disease, or some disorder of the internal generative organs; the various diatheses, diabetes, nephritis, icterus and circulatory disturbances; lastly, to some neurotic conditions. There are rare cases which suffer at time of menstruation, and others only during pregnancy, while some suffer only through winter, and on the other hand others who suffer only through summer.

Some of the exciting causes may be mentioned, such as masturbation, undue manipulation of the parts, irritants applied to the skin, the presence of pediculi, ascarides and various forms of known parasites.

The case I wish to report is Mrs. W., aged forty, married, with a history of no abortion and several healthy children. She is a robust woman, giving a negative personal history, also a negative family history, and seems to be free from any inherited neurosis or diatheses. She seems to suffer very little nervousness, though somewhat melancholy, which you would naturally expect after having suffered with this tormenting, at times almost maddening itch, for seven years. At first of slight degree and intermittent, provoked if she became very warm, or did a good deal of work or walking. For the past one and a half years, however, the attacks of itching have been more frequent and severe, and for the past eight months almost constant and intolerable, causing much loss of sleep with its concomitant nerve-racking results.

Upon examination, the inner surfaces of the labia majora were found to be whitish in character, and the epidermis very much thickened and sclerotic; the labia minora not prominent, and the clitoris was almost completely concealed beneath the prepucial tissues, which were white, indurated and very much thickened. Just internal to the basis of the labia minora were chronic ulcers, the size of a nickle. They were of an unhealthy appearance, having no tendency to heal, but attended with occasional bleeding, induced from undue manipulation of the parts excited by terrorizing and almost constant itching.

She had tried numerous physicians at home and elsewhere with only temporary or no relief. Innumerable ointments, lotions, douches had been used, even the parts had been cauterized, all of which were of no avail. Also internal medication empirically used for supposed toxic accumulations from a diathesis, or deranged or faulty metabolism. None of which, separately or combined, giving any relief.

After all local and constitutional measures had been exhausted in the hands of worthy physicians, I felt a hesitancy in attempting a repetition of this treatment. But as operative procedures for this condition were so ill defined and only recommended as the very last resort, I concluded to try a few remedies for my own conviction. Some of the remedies used were ichthyol, painting the parts in its full strength; cocaine solution in different strengths were used (though injecting Schleichs solution into the tissues, which has since that time been highly recommended, was not tried), lead and opium water applied often to the parts; at the same time paying special attention to dietic and hygienic conditions, regulating the bowels as much as possible, rendering the urine less acid by copious drinking of alkaline mineral waters, etc. But after earnestly trying these measures for about six weeks, I was convinced that I was not dealing with a medical case, and that the itching was most likely due to a neurosis of the terminal nerve endings. Proceeding upon this conviction, excision of the parts was suggested to the patient, which she very willingly accepted.

Operation.—After patient was fully anasthetized with ether, and the parts surgically cleaned, an elliptic incision was made from about an inch above the superior commissure downward along the upper borders of the basis of the labia majorae to the posterior commissure; then with the point of the scalpel a crescentic incision was made a few lines beyond the urethal orifice above and to the side and extending downward along possibly a half inch to the inner surfaces of the nymphae, so as to include vaginal ulcers, and meeting the outer boundaries of the incision at the posterior commissure. The involved area, in-

cluding the whole thickness of the skin, the clitoris, the labia minora, the vestibule and a part of the labia majora, was rapidly dissected away, and bleeding points secured with forceps and ligated with small catgut. The wound was large and gapping, but was readily closed with only slight tension. The closure was begun at the apex, bringing the skin edges together until the base of the vestibule was reached, when the integument was attached to the crescent convexity of the border of mucous mebrane left purposely around urethral orifice. The edges lower down were sutured in the same way, though the remaining skin borders of the labia majora had to be pulled somewhat inward in order to be able to attach them to the borders of the vaginal mucous membrane, where, when sutured, was slight tension, though healing was good, but with slight stricture of vaginal outlet which was afterwards dilated.

Symptoms were immediately relieved. The patient has now been under observation more than two years, has continued healthy with no return of symtoms. She is very grateful for the operation and feels elated over her condition.

THE ABDOMINAL SURGICAL COMPLICATIONS OF TYPHOID FEVER

J. R. B. Branch, M.D., Macon

Owing to the limited time at our disposal we shall have to treat this interesting phase of this important disease in a rather cursory way, being suggestive rather than exhaustive. For a full and free discussion no better article can be recommended than Keen's classical monograph, "The Surgical Complications and Sequels of Typhoid Fever," published in 1898 by Saunders & Co. Since the abdominal complications requiring surgical intervention play such an important part in the mortality statistics, we should insist upon our typhoid patients going to a hospital, where such aid may be promptly and effectively given should the indication arise. Even though a simple uncomplicated case could be as well treated at home (which it cannot), this reason alone should be sufficient.

The most important and fatal complication is intestinal perforation, estimated in frequency from one-fourth of one per cent. to eleven per cent. by different authors. Harte & Ashhurst (Annals of Surgery, January, 1904) report 8,881 cases, with 225 perforations, 2.54 per cent. probably the fairest average.

Time of Occurrence.—Perforations occur with almost equal frequency during the third, fourth and fifth week of the disease, according to most authorities, though I believe there is some error, owin gto the difficulty in determining the exact, or even nearly approximate, date of onset.

Location of Perforations.—Fortunately, since it simplifies diagnosis and facilitates operation, perforations usually occur in the terminal three feet of the ileum. Of course they do not **all** occur in this region, and we must realize that perforation **may** occur elsewhere and be accordingly on the lookout for the unusual and infreqnent exceptions. Although perforations are most common opposite the mesenteric attachment, where lymphoid tissue is most abundant, and blood supply least, they may take place between the layers of mesentery of small or large bowel. In eighty-four per cent., perforations are single, but it is most important not to overlook suspicious spots.

Symptoms—Diagnosis.—Most text-books give the earliest, most important, most constant and suggestive symptom as **pain,** usually sudden and severe. In a certain number of cases, however, this is preceded by hemorrhage, and when this does occur, our vigilance should be uninterrupted.

The pain is usually referred to the right lower abdomen, though we often see pain referred to other and remote regions, owing to the complexity of sensory nerve distribution. In toxic and apathetic individuals pain may not be complained of. There is usually a sudden drop in temperature and a corresponding rise in pulse rate, which in typhoid is nearly always quite slow in proportion to the temperature curve, abdominal rigidity and tenderness being present, as a rule. There is a change in facial expression, an anxious, worried look preceding the "facies abdominales" or Hippocratica, observed after peritonitis has set in. Blood examination shows a rise in leucocyte count from the usual leukopema to a leuko-cytosis. This is more or less gradual, hourly counts being necessary

and valuable time may be lost in waiting its development.

Too much stress cannot be laid on the importance of early diagnosis, and it is only by constant watchfulness of even the slightest changes that this can be accomplished. When all the text-book signs and symptoms are present and diagnosis is easy, peritonitis has usually set in and operation may be too late.

After seeing two cases die from unnecssary delay, awaiting a **positive** diagnosis, I cannot too strongly urge an exploratory incision in doubtful cases. Done under nitrous oxide and oxygen anaesthesia, or cocaine, **if the operator is experienced** in its use, there is little risk.

Prognosis.—Always grave. In operative cases about twenty-five per cent. recover.

Treatment.—Early operation offers the only hope. Delay is fatal. Having seen the symptoms of perforation masked and overlooked, owing to opium being given for hemorrhage, I mention it to condemn it. No drugs should be given until the diagnosis is made, and then morphia enough to quiet the patient until operation can be done. There isn't time to go into the details of surgical treatment and we shall have to pass that over.

Other less common abdominal complications are typhoid appendicitis, perforation of the gall bladder, and infection of the liver and bile passages.

Just a word in regard to the last mentioned. It was my privilege to hear Crowe, a Georgia man, and a classmate of mine, read his paper on the excretion of Hexametly Cueamerie (Urotropur) into the gall bladder and to see him demonstrate its bactericidal property on typhoid bacilli found there. This research gives us not only a valuable therapeutic measure, but a useful prophylactic one in typhoid cholecystitis.

I am aware of the shortcomings and omissions in this sketchy paper, and though the ground has not been entirely covered, I trust the time spent on the most important and interesting complication, viz., intestinal perforation, has not been entirely without profit.

PRE-OPERATIVE AND POST-OPERATIVE TREATMENT OF APPENDICITIS *

H. Stokes Munroe, M.D., Columbus

The title of this paper has been selected advisedly. It is true that many patients with appendicitis are not operated on and recover, yet it is now conceded by physicians, as well as surgeons, that appendicitis is a surgical disease and our treatment should be given with an operation in view at any time. The safest treatment for all cases, the mild as well as the severe, is early removal of the appendix, as soon as a positive diagnosis is made, provided it can be done by a competent surgeon under favorable conditions. By this plan the average mortality is only two or three per cent. This treatment, however, cannot always begiven. Some patients will refuse the advice and not give their consent, some prefer to give medical treatment a trial first, while others are so situated that they cannot have the benefit of the early operation, so put it off as a last resort.

With a great many of our cases, then, we have to treat our patients and watch them closely for any sudden changes in their condition that may demand an immediate operation.

In the beginning of the attack it is usually safe to give a mild purgative in small repeated doses until the bowels act. This often confirms the diagnosis by removing any undigested food or fermenting products, as well as relieving the constipation which is more often present than absent. Enemata may be used also if necessary. A single large dose of purgative causes too much peristalsis, thereby increasing the pain and nausea. There is little likelihood of the purgative doing the inflammation any real good, but in the beginning it is best to cleanse the intestinal tract. There is seldom any accumulation of faeces or lumps in the caecum which could in any way be an aggravating cause of the trouble. In some cases, however, the purgative may remove a plug of mumus or fecal concretion that is causing an obstruction of the appendix. There is some danger, too, of an early rupture

* Read at meeting of the Fourth District Medical Society, Columbus, Ga., February 20, 1912.

of the appendix and spread of the inflammation by too violent purgation.

After this preliminary purgation, it is unwise and unsafe to continue it with the hope of removing the trouble. Such treatment only makes the patient's suffering worse, increases the nausea and vomiting, aggravates the inflammation by the active peristalsis produced, and may prevent the life-saving barrier of adhesions that Nature is attempting to throw out around the inflamed appendix.

For the relief of pain, which may be agonizing, the ice bag or hot water bottle is often sufficient. Ice will usually afford more relief, while it is more likely to favor gangrene in those cases in which the circulation of the appendix is interfered with. For this reason the hot water bag is the safer to use if it affords the same comfort to the patient. I usually employ the ice bag in summer and the hot water bag in winter, or use them according to the preference of the patient. Applications which irritate the skin should not be used, for they make the skin unsuitable for aseptic surgery. The good from poultices is merely the amount of heat they contain, so they should never take the place of more efficient means of heat application. If the patient is not relieved by these simple remedies, or if the pain is very severe, small doses of codeine or morphine hypodermically may be given. Opiates, however, modify the symptoms, mask the disease, and interfere with our opinion of the pathological conditions to such an extent that it is much better to get along without them, or to use small doses at long intervals. If the nausea and vomiting are troublesome, a gastric lavage followed by keeping the stomach empty, will usually give relief. Drugs, as a rule, have little effect in relieving the nausea. All food and nourishment should be absolutely prohibited the first twenty-four hours, after which time light liquid diet in small quantities may be begun. Water in small quantities may be given if the patient can retain it, otherwise saline enemata, one pint every four to six hours, should be used.

The temperature and pulse are reliable guides of the progress of the disease and nothing should be given to modify them.

The indications for operation may be classed under three heads: (1) Operation is **advisable** in all cases as soon as a diagnosis is made. It is the safest plan of treatment, although we cannot assure the patient that it is absolutely necessary, for he may recover without it. Some of our larger hospitals today will not admit any patient with appendicitis to their wards without his consent for immediate operation. (2) Operation is **necessary** in all cases, even the mildest, if at the end of thirty-six hours the symptoms and signs of the disease have not all subsided. It is **necessary** in the beginning in all cases of such violent onset that large doses of morphine are needed for relief, and in cases with marked elevation of temperature and increase of pulse rate. (3) Operation becomes the **last resort** if at any time early in the attack there are symptoms of rupture or beginning peritonitis, announced by increasing rigidity of abdominal muscles, swelling of abdomen, and accelerated pulse rate; if at the end of the forty-eight hours the disease is progressing in severity; if the case has gone to abscess formation with a palpable lump in the side, and for generalized peritonitis.

After operation is decided upon, it is a good plan to give the patient a hypodermic of morphine and atropine before removal to the hospital, or while making the necessary preparations, if it has to be done at his home.

The after treatment of the early cases, in which the inflammation is limited to the appendix, does not differ from that of any ordinary laparotomy. It is the septic cases, the perforated appendices with local or general peritonitis and abscesses, that require special treatment. It is these complications that have given such high mortality to the operations for appendicitis.

The drains in these cases should have been carefully placed to remove all septic material. Give an enema of one pint of normal saline before the patient is removed from the operating table. As soon as he regains consciousness put him in the Fowler position. To accomplish this, I usually use an adjustable bed rest padded with pillows and raise it to an agle of about 60°. A sheet folded several times run under the thighs and tied to the bedpost on each side of the head of the bed suffices to keep him from slipping down. Murphy's drop method of proctoclysis has proven so unsatisfactory in my hands that

I simply give one pint of saline per rectum every three hours for the first twelve or fourteen hours, and then begin to give water in small quantities by mouth, gradually increasing the amount until the patient is taking two ounces every thirty minutes. In this way, he gets a pint every three hours, which replaces the enemata. The rectum becomes irritable and will not retain the water after four or five enemata are given at such frequent intervals. I also give small doses of morphine or codine hyperdermically as often as necessary to keep the patient comfortable the first twlve hours. If the water does not cause any nausea, liquid nourishment such as egg albumen and peptonids may be given also. If there is persistent nausea, the stomach should be washed out every three or four hours until the nausea ceases. Or if the early allowance of water should cause any anusea it should at once be discontinued and the enemata resumed. One of the prepared foodh may be given with the enemata if we think the patient needs nourishment.

The one thing that is most likely to cause trouble and embarrassment in these cases is the too early administration of a purgative. The accumulation of gases in the abdomen is more of a contradiction than an indication for early purgation. If the bowels are left to take care of themselves, the gas that forms is absorbed very nearly as fast as it forms. The bowels in the presence of peritonitis are very hard to move and the purgative, whether it is calomel or saline, will increase the nausea, and by causing an excessive osmosis of fluids into the intestinal tract it diminishes the natural absorption of the gas, thereby increasing the distention to a marked degree. It also stimulates more peristalsis than is safe for the patient. I do not consider it safe to give a purgative under three or four days, and do not like to give it then if an enema will accomplish the desired result. It is surprising how often these patients will voluntarily begin to expel excessive accumulations of gas at the end of the second or third day as the active inflammation subsides. Eserine should not be given because of the violent peristalsis it causes. My limited experience has convinced me that too much purgation before operation, and too early purgation after operation, cause more serious complications in appendicitis than anything else. The bowels and the peritoneum need rest, that essential factor in the treatment of any inflammation, and they cannot get it when kept in constant motion and turmoil by purgatives.

The removal of the drainage tubes may be begun as soon as the temperature is normal, the discharge subsiding, and the tubes are loose enough to move easily. They should be removed gradually, from one-half to one inch being cut off each day. As a rule, the drainage may be entirely removed in a week or ten days and the patient be allowed to sit up as soon as the wound is united. It is not necessary to keep the patient in bed until the site of the drainage is entirely healed. It is wise to place short strips of adhesive straps across the line of incision, a small pad over this, and over all wide bands of adhesive extending entirely across the abdomen. This dressing of adhesive plaster can be worn for one or two months after the patient is up and about, provided it is changed every ten days or two weeks. In some of these drainage cases it is best to have the patient wear an abdomianl supporter for several months to guard against the tendency to hernia.

I do not wish to burden you with any detailed statistics, more than to say in my last ten suppurative cases of appendicitis, in which the above mentioned after treatment was followed, all made uninterrupted recoveries without serious complications. In this list there were two cases of gangrenous appendices with localized peritonitis, four abscess cases, two acute perforations with localized peritonitis, and two of general peritonitis. No hernia has, so far, developed in any of these patients, which I attribute largely to the prolonged use of the support with adhesive plaster.

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THE NERVOUS WOMAN

Lewis M. Gaines, A.B., M.D., Atlanta

Professor of Neurology, Atlanta School of Medicine; Neurologist to Tabernacle Infirmary, and Wesley Memorial Hospital

The nervous woman is the despair of every general practitioner. She is also one of his greatest problems. What is the cause of her ever-constant complaints, which the whole gamut of therapeutic measures often fail to alleviate? The doctor, at his wits' end, wonders what next can be done, for assuredly something must be done. The patient demands it, his own therapeutic conscience requires it, his professional reputation and perhaps financial outlook insists upon it. One drug after another is advised, tried, rejected, and still the ever-present pains, hyperaesthesias, aches in every organ and locality, neuralgias, sciaticas, ovarian, uterine and bladder disturbances, digestive disorders, insomnias, irritabilities, and hosts of other ills too numerous to mention, but all of which suggest functional disturbances of the nervous system. How little we understand concerning that most wonderful of all organizations—the nervous system—particularly as constituted in woman. And yet, we can often do a very great deal to relieve these conditions, provided a very devious way can be successfully threaded.

As always, a correct diagnosis is essential, not only as to the existence of a pure neurosis to explain the condition of which the patient complains, but as to what variety is present. The diagnosis of neurosis should be made with the greatest caution. It is extremely important that no organic disease be overlooked. Too frequently has Bright's Disease, hyperthyroidism, and other diseases been mistaken for a functional nervous disturbance. On the other hand, how many women have been unsexed or subjected to mutilating operations who have been the victims of a neurosis pure and simple. If so, the last state is assuredly worse than the first. Such are the cases who turn from the regular practitioners to the healers and fakirs, furnishing them very workable material.

I wish to briefly call attention to certain phases only of the problem of the nervous woman, particularly as regards diagnosis and treatment. Despite much discussion to the contrary, it appears to me that there are five types of functional neuroses worthy of distinct recognition—hysteria, neurasthenia, traumatic neurosis, hypochondria and psychasthenia.

Hysteria, contrary to a very general impression, is relatively a rare disease. The term is used entirely too loosely. By hysteria the neurologist delimits a very definite type to which the patient must conform in order to fall under this group. The most striking single thing about the disorder is the extraordinary susceptibility of the patient to suggestion. It is important to bear in mind the fact that the symptoms of the disease should be divided into the so-called stigmata and the so-called accidents of hysteria. The stigmata refer to certain phenomena which tend to permanency, including, for example, certain distinct areas of anaesthesia, characteristic changes in the visual field, and certain definite motor changes. The accidents must be sharply distinguished and refer to more or less transitory phenomena, chief among which are the so-called hysterical attacks, as well as such conditions as hysterical paralyses, contractures, tremors, and spasms, and certain distinctive sensory and visceral manifestations. Bearing in mind these definite clinical criteria, coupled with the remarkable suggestibility of the patients, the diagnosis should be made without difficulty.

Neurasthenia, often called the American Disease, and, indeed, somewhat typical of our mode of life, is a very common condition. It should be remembered that it oc curs in the course of many organic diseases, upon which it is grafted, or to which it may have been pre-existent. Undoubtedly, however, it exists very frequently as an independent affection. It is at this point that a very careful and very complete examination must be made to exclude or detect an organic basis. Perhaps the most unvarying symptom of neurasthenia is a remarkable "fatigability" usually out of all proportion to the physical findings. Associated with this are a host of complaints, chief among which are headaches, pain in the back, insomnia, mental depression, and introspection plus disturbances referred by the patient more especially to the digestive, circulatory and genito-urinary systems in varying propor-

tions. To be more specific, and recall to your minds oft-told tales, our nervous woman finds she is upset by certain kinds of food, suffers greatly with gaseous distension, cannot take standard articles of diet, is constipated, has a pain, now in one region of the chest or abdomen, now in another. Or, she suffers with palpitation, and oppression in the chest, has a throbbing sensation in the abdominal aorta, or in the head. Or, she has frequent and painful micturition, has the most incongruous anomalies of the menstrual flow, and inexplicable sensations in the erotic zone. Such is a cursory view of the neurasthenic picture, which is painted in very different colors from the hysterical. With the classification of our patient as neurasthenic, however, the task is but begun. The etiological factor must be found if results are to follow, and here is the tangled skein, oft-times. Frequently some disturbance in an ethical or social relation is the starting point. Or an organic basis, such as a beginning apical tuberculosis, a slowly developing brain tumor, a case of which I recently saw, may be the factor. Or there may be hyperthyroidism, sacro-iliac relaxation flat-foot, or a real gynecological condition demanding more or less radical interference. Evidently, until the cause is detected, our therapeutic attacks may be somewhat likened to careful attempts to make a sieve hold water. Hence, I repeat that in no class of patients is it more imperative to make a thorough and systematic examination of every part of the body, than in patients presenting themselves with neurasthenic symptoms. Too often they are dismissed with a shrug as being "only neurasthenics" who imagine they are sick. This attitude is suicidal to success. Their symptoms are very real to them, and point to a real basis.

The traumatic neuroses constitute a separate class of neurasthenics in whom there is a well defined history of trauma physical or mental. Our etiological factor is here given us, but the relief of the condition involves a great deal in common with the ordinary type of neurasthenia, and also the satisfactory adjustment of medico legal questions.

Hypochondria, a not very common condition in women, I pass over in order to place some special emphasis upon psychasthenia.

Psychasthenia is a very common disorder, largely mental in character, which is commonly confused with neurasthenia on the one hand and hysteria on the other. The elaborate and painstaking work of Janet, of Paris, has established the entity of this disorder. Though all grades are met with, and hard and fast lines cannot always be drawn, perhaps the most characteristic feature of the condition is the existence of obscessions, or imperative ideas. In addition there are pseudo-hallucinations, abnormal impulses, ungrounded fears, a peculiar sense of unreality, and other similar states of mind which render the patient and her friends miserable in the extreme. The imperative ideas vary greatly and persist out of all proportion to their importance. It may be an idea of crime committed, or of shame, or of the existence of an incurable disease. Despite the most positive assurance to the contrary the patient declares she has some serious disorder of the heart, or of the ovaries, the uterus, or some other organ. The most bizarre ideas become the most important in the consciousness of the patient, and influence her daily life. Other patients have manias about various acts. One patient before taking food was compelled to touch a spot on her body with her forefinger a definite number of times. Ofter these patients cannot pass certain objects without touching them, or are obliged to observe the most infinite precautions and attain a scrupulous standard of precision in accomplishing complicated acts before doing the simplest things, such as sitting down or rising from a chair. Others, again, have all manner of phobias—fears of crowds, of open places, of closed places of disease, of impending doom, of certain animals. Be it understood that all of these mental states are very real to the patients and a source of the most acute mental distress to them. They often feel that they are veritable slaves bound with the chains of these imperative and unavoidable ideas. No two patients will present exactly the same symptomatology, and yet in general all will be true to type, and admit of classification.

I now wish to emphasize certain principles of treatment of the nervous woman, which though frequently necessitating much laborious and patient effort, will oft-times bring the reward of success.

SIXTY-THIRD ANNUAL MEETING, AUGUSTA, APRIL 17-19, 1912

1. The underlying cause of the condition where such can be demonstrated to exist must first be attacked. Sometimes these causes are so ridiculously simple that they escape detection. For example I might mention bad teeth, Rigg's Disease, flat foot. At other times there is a surgical or gynecological condition, or again a mechanical condition such as gastroptosis, or splanchnoptosis, or relaxed sacro-iliac joints. Very frequently there is a condition of chronic auto-intoxication, the result of intestinal putrefaction and faulty elimination. In general, the search for and finding of the cause gives the most important clue to successful treatment.

2. **Rest.** The splint is to the fracture what rest is to the neurotic until convalescence begins. There are many ways of applying rest. The most extreme application is embodied in the so-called rest cure which in my experience must be carefully individualized. All grades of rest may be used, and it is important to remember that mind as well as body must enjoy its advantages for benefit to accrue.

3. **Diet.** Certain important considerations must be taken account of in formulating the diet of neurotics, such as the nutrition of the patient, the assimilating power, the digestive power, the presence or absence of constipation, and most important the matter of protein putrefaction in the intestine. A due regard to these different considerations will guide one in each individual case, only after the case has been carefully studied with this in view. In hospitals, the caloric value of the food ingested should be ascertained.

3. **Electricity.** This agent is not a necessity, but in carefully selected cases is a very valuable ally in the treatment of some forms of the neuroses. I have used the high frequency current applied by vacuum electrodes with marked success in cases which were pronounced amenable to suggestion.

5. **Hydrotherapy.** The manifold methods of applying water to these cases are in many instances of the greatest value, but each patient must be individually considered. For some a hot pack, for others a cold pack is productive of the best results. At times they may be alternated. Sitz baths may prove of immense value in certain forms of sexual neurasthenia. A cold sponge bath applied over the spine often accomplishes wonders in one case and aggravates another. I believe, however, that there are few cases of neurosis which are not benefited by some form of hydrotherapy.

6. **Isolation.** I wish to mention this method apart from the rest. Women lend themselves to this procedure better than men as a rule. The advantages of the method are that the patient is removed from an environment where sympathetic ears are ever listening to her oft-repeated tales of woe and endless series of symptoms, to a place where, under only the nurse and physician, she can be placed upon a definite regime, be subjected to gentle, but firm discipline, be influenced to the maximum by suggestion along therapeutic lines, have the diet better regulated and controlled, and in a word make a business of getting well. Provided the patient co-operates, the nurse is temperamently suited, and the physician commands confidence, success is often attained where all other methods have failed. It is a delicate mode of treatment, and one requiring great tact for successful results. We hear much of psychotherapy in connection, particularly with the application, of the isolation method. Undoubtedly we all apply it unconsciously in the treatment of every medical case, but there is no doubt that the neurologist must develop this method more highly, though each in his own individual way. It enters very largely into the success or failure of every physician, no matter what other methods he employs.

7. **Medicinal.** The use of drugs alone in treating this difficult class of cases will not, as a rule, result in cure, and frequently the patients are rendered worse or made drug slaves. owever, drugs in connection with other methods have an important place in treatment. For their general tonic effect strychnine and arsenic appear to have value. Phosphorus has been supposed by many to have a special affinity for nerve tissue, to prevent nerve waste, and thus and thus favor anabolism. Forscheimer recommends the hypodermic administration of the glycero-phosphate of sodium. In connection with the tonic effect, sedatives are at times indicated.. Of these, bromides are the best, but must not

be too long continued. Valerian and asafoetida are, perhaps, of particular value in hysteria, though they may be tried in other forms of neurosis.

Various symptoms have to be met as they arise, and the therapeutic resourcefulness of the physician is often put to severe test. Gastro-intestinal symptoms, sexual symptoms, cardiac symptoms, and the host of others may demand certain special drugs which may have to be repeatedly changed to produce the desired effect. Very often the frequent changing of prescriptions is in itself an excellent therapeutic measure.

Necessarily the family physician employs first drug treatment, with the injunction, perhaps, to rest, knowing this injunction will not be observed. Too frequently the results are necessarily bad and the patient falls into chronic invalidism. Such are the patients who are so vastly benefited by complete change of scene and the application of the methods outlined above. 1314 Empire Building.

A COUNCILOR'S PLAN

A copy of the following letter of Dr. J. G. Dean, Councilor of the Second District, has reached the Journal, and it gives us great pleasure to make it public in that it appeals to us as one of the best possible ways of enlisting the interest and co-operation of the profession. We understand that this letter has been sent to every eligible physician in the district, and we commend it as an example of one of the methods of arousing a healthy enthusiasm, to the other councilors and vice-councilors throughout the State:

Dawson, Ga., March ——, 1912.

Dear Doctor:—This is an appeal to the doctors of the Second Congressional District to lend their aid to the councilors of the Medical Association of Georgia to induce every physician of the State to come into the Association and assist in upbuilding the profession throughout the State, which upbuilding will, at the same time, mean great things to suffering humanity; for what helps make doctors better, helps just so much the treatment of the ills of mankind. Rally to your county society. Do not continue longer with the thought that the organization of doctors is not very essential. As time goes, and people are better educated, it wil lbe the doctor who keeps in thorough touch with his profession, who keeps abreast therefore with the advances in his art, who will enjoy the confidence of all people who think, and who will be in the end a success in the great calling of which he forms a part.

At the Rome meeting last year much was done which will mean great things to the profession of the State, and matters will come again before the coming meeting of the Association in Augusta which every doctor in the State should aid in making take such shape as will advance the interests of both the doctor and the public.

Pay at once your annual dues, $3.00, to the secretary of your county society, and see that he sends it promptly to Dr. W. C. Lyle, Augusta, Ga., secretary of the State Association; or, if you have no organized society, send it yourself to Dr. Lyle and take immediate steps to organize your county doctors into a society. It means too much to you not to be thus interested. Turn over a new leaf, help us make ourselves better than ever before. If I, as councilor, can be of service to you, write me, and if at all possible, will meet with you and do what may be in my power to aid in the organization. The Journal of the Association will be more than worth the price of your dues. This Journal was adopted at Rome, and you miss something worth your notice and thought in its every issue which you fail to receive.

Make your plans to be at Augusta when the State Association meets there in April. This meeting will be of interest and a benefit to you.

Hoping that this letter will interest you, and that I may have the pleasure of seeing you at the above mentioned meeting,

I am fraternally yours,

J. G. DEAN,
Councilor Second District.

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NEWS: Our readers are requested to send us items of news of a medical nature, also **marked** copies of local newspapers containing matters of interest to physicians. We shall be glad to know the name of the sender in every instance.

INDIGESTION

It will not infrequently happen that the young practitioner, fresh from his studies in the university, or newly come from his busy round as interne in a general hospital, will, when summoned to his first patient, find it to be a neighbor who, in a somewhat casual and patronizing manner, explains that he has been suffering for some time with indigestion and will a little quizzically inquire of the young man whether he can't give him something for it. The patient will enumerate his train of symptoms, symptoms that are in so far common to all gastric disorders that they may be grouped as the gastric symptoms—complex—a feeling of heaviness or pressure after eating, a burning under the sternum, a lump in the throat, an uneasy fluttering about the heart. The patient conceives these troubles as constituting after all a minor malady, not even sufficient to cause him to stop work, and hence he concludes, possibly, within the scope of an inexperienced young doctor. Indeed, he has scarcely thought it necessary to go to a doctor at all and has heretofore contented himself with domestic remedies or such dyspepsia tablets, elixirs of pepsin, and other patent or proprietary nostrums as the druggist had to offer. On the recommendation of a friend he has consumed several carboys of a well-advertised mineral water that came with an attested laboratory analysis and a pamphlet showing the experience of distinguished divines and members of the judiciary who had found this beverage of value in stomach trouble.

The young doctor finds himself in a difficult position. If it had only been a case of pneumonia or cardiac dropsy he would have known what to do, but then this client would probably not have summoned him in so grave a contingency. He would like to achieve a success, even in this minor malady, but he is doubtless aware that it is just the minor maladies that do not declare themselves by obvious physicial signs and that are of a causation obscure and difficult to elucidate. Through his brain flit various half-remembered formulas of redoubtable stomachics in which digestion ferments, nux vomica, hydrochloric acid, gentian and quassia play leading roles. He hesitates to subject this half-joking and fairly hearty patient to the ordeal of a prolonged routine history taking and physical examination, as he has been trained to do. He suspects, perhaps rightly, that the patient would expect any doctor to know so slight a thing as this without so much circumlocution, and would feel rather bored at being messed over so much about a simple case of indigestion.

As a matter of fact there is no simple case of indigestion. The young doctor was really confronted with the difficult prob-

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lem of unraveling from a great number of possibilities the one active in causing food to lie heavy on the stomach, or, in the language of clinical pathology, the one that through its influence on the play of the pytonic sphincter was interfering with the rhythm of gastric motility in such a way as to bring the action of the stomach into the realm of consciousness. To understand the difficulties of the problem we much know various influences that affect gastric motility—those that arise from within the stomach, those that arise in the duodenum and those that come through the central nervous system.

The intereference with the rhythm of gastric motility is most often affected by influences coming from the central nervous system via the vagus. Perhaps the most instructive physiological experiment for the clinician to bear in mind is that showing the effect of disturbances in other parts of the body on the movements of the stomach. In a cat fed on bismuth and observed behind the fluroscopic screen, Cannon found that the movements in the antrum which had previously been going on regularly came to a stop whenever the animal was excited or thrown into a violent ill-humor. Anxiety or rage brings the peristalsis of the stomach to a full stop. When the animal is quieted peristalsis starts afresh. If an irritation of the bowel is produced in a dog having a duodenal fistula such as to produce a slight diarrhoea, at once there is a prolongation in the duration of the gastric digestion of fifty grains of meat, so that the process that formerly took two hours now takes four hours. In the more highly organized adjustments of the human nervous system disturbances of this type in the function of the stomach play the leading role. If we eliminate about fifteen per cent. of the gastric disturbances which are due to organic disease, knowing the rest to be functional in character, and the disturbances of function is chiefly a disturbance of motility due, in the majority of cases, to factors inducing irritation in the central nervous system, whether these factors are to be sought in overwork or worry or in organic disease in other parts of the body. We have to consider organic nervous disease, diseases of the blood, metabolic disturbances, acute and chronic infections (and especially tuberculous), intoxications, diseases of the circulatory system, of the kidneys, of the liver, of the pancreas, of the intestines, and of the pelvic and generative organs. We cannot emphasize too much the importance of elucidating the primary factors to which the gastric disturbances are secondary.

Of the intragastric causes of dyspepsia the acid question has been most studied. The disturbance associated with continuous hypersecretion or hyperacidity arise chiefly from the action of the acid; delaying the passage of the shyme into the duodenum through the duodenal acid reflex. Too much fat in the food produces discomfort by a single mechanism. Poorly masticated food will lie longer in the stomach and is apt to induce the discomforts of indigestion because the sphincter refuses to open for its passage.

For many years the chemistry of gastric digestion has been the main object of examination and abnormal finding has been too readily attributed to derangement of the secretory function. It is more often the patient in his habits, his daily hygiene, the functionary of remote systems of the organism that it is profitable to steady rather than his stomach.

OLEUM TELESPHOROS, ANOTHER ABSURDITY

Oleum Telesphoros, according to its exploiters, the "Bayles Laboratories", is an "animal" oil fro mthe "fat of the omentum and appendices epiploica". The exploiters say that, because of its origin, "it is no more than natural that one of its greatest spheres of usefulness should develope in its application to abdominal surgery", namely, the treatment of adhesions following abdominal operations. While the proposition that a fat obtained from such source should possess virtues differing from those of any other fat of similar composition appears absurd, yet the very fact that it has been put on the market means, of course, that a large proportion of a presumably scientific profession will "fall for it" and a multitude of medical editors, if opportunity is offered them, will "stand sponsor for it"! We, therefore, quote the following from a letter by Albert P. Mathews, Ph.D., professor of psysiologic chemistry in the University of Chi-

cago: "From the description of its origin it is obviously nothing more or less than 'oleo oil', or 'oleomargarine', as it is called abroad, and the chief basis of oleomargarine made in this country. Few would recognize it under the high sounding name of Oleum Telesphoros, and few probably would be willing to pay $2.00 a pint for it under its trade name. The statement that, being derived from the omentum and appendices epiploicae, it is hence 'no more than natural that one of its greatest spheres of usefulness should develope in its application to abdominal surgery', will carry great weight with those who believe that kidney beans are a panacea for kidney disease and that lunacy is due to the moon."

A VINDICATING SYLLABUS

Some articles appear in journals devoted to specialties, which would be of more immediate value if brought promptly to the attention of the general practitioner. One such article appeared in the November number of the Laryngoscope under the caption "Syllabus for a Lecture to Medical Students on the Deaf Child."

Special committees were appointed from the American Ototogical and the American Laryngological, Rhinological and Otological Societies to prepare such a "Syllabus." It bears the stamp of authority, and it contains some striking statements on the subject of the **prevention** and **cure** of deafmutism. I shall make one or two quotations of special interest to Georgians:

"The pathology of deafmutism is not well established on account of the difficulties of getting accurate clinical histories combined with adequate post-mortem findings.

"The amelioration of the deafness and even a cure of deafmutism is among the possibilities. Prevention of deafmutism is entirely possible in many instances."

These declarations are exactly in line with claims made before the Medical Association of Georgia by me in 1903, and for which I was severely criticised.

I had proof then and I have better proof now, that a cure of deafmutism is not only "among the possibilities", but is an accomplished fact. With the prejudices of the medical profession on their side, it has been easy for those who "know not, and know not that they know not", to discredit the efforts of any one man venturing in this field of scientific investigation.

The only proof that I can find, at home or abroad, to substantiate these claims of the "Syllabus" are to be found in Georgia. Shall we continue to discredit each other?

Had a "Syllabus" been compiled from articles written from Georgia within the past twelve years, it would be a twin to that published by the committees, which do not as yet feel justified in going quite so far as Georgia in their claims; very probably because of lack of the proof which Georgia has. The idea in presenting this matter thus briefly is to keep the records straight and advance the interest of those not in a position to do so themselves. Deafmutism is coming into its legitimate medical status.

MAURY M. STAPLER, M.D.

PELLAGRACIDE AND EZ-X-BA

It seems to be a recognized rule of quacks and nostrum manufacturers that the more hopeless the disease the more worthless and the more expensive should be the treatment or the drug offered to the afflicted. This, of course, is simply reducing human suffering to a commercial basis; the greater the suffering, both physical and mental, the more willing is the unfortunate victim to sacrifice everything on the promise of relief; the more hopeless the disease, the less object has the quack or nostrum manufacturer in going to unnecessary expense; where all drugs are worthless the cheapest will be used. This law has long been recognized in the case of cancer and tuberculosis "cures"; olive oil is considered sufficient for the former and flavored sugar for the latter.

The preceding comments are made in connection with the report of an examination of two nostrums sold as cures for pellagra, namely EZ-X-BA and Pellagracide. The nostrums were examined in the Hygienic Laboratory of the United States Public Health and Marine Hospital Service, and according to the director, Dr. Reid Hunt, appear to contain as their essential constituents sulphates of iron, aluminum, calcium, and magnesium. Dr.

Reid Hunt says: "A similar preparation could be prepared at a nominal cost from the partially weathered iron-bearing minerals occurring aboundantly in the South by digestion with dilute sulphuric acid."

As to their efficacy in pellagra it is stated that they "contain no substances which could be reasonably expected to have any curative value in this disease; on the contrary, they would tend still further to impair the digestion and so aggravate the condition."

In conclusion it is asked "how long will the United States Government not only permit its afflicted citizens to be imposed on in this manner, but actually aid the nostrum manufacturers by permitting the use of the 'Guaranteed under the Food and Drugs Act" in a manner to lead even the intelligent to believe that the Government has some control over such 'remedies', and to afford such opportunities for the exploiters of nostrums to deceive the public?"

CONVENTION OF COUNTY SECRETARIES

The State secretary urges that every county secretary in the State attend the annual meeting in Augusta next month, as an effort will be made to organize the secretaries in a more efficient body.

We feel that the various county societies should urge upon their secretaries the necessity of being present, and if necessary, offer to defray the expense of attending. Upon the county secretary depends the life or death of the county society and through it the existence of the State Association. The State secretary wishes to entertain the county secretaries at a dinner to be given at the Albion Hotel, Thursday night, April 18th, if a sufficient number attend to effect an organization. Kindly write him if you will be on hand.

NOTICE TO COUNTY SECRETARIES

The secretary wishes to call the attention of county secretaries to a few points that do not seem to be well understood.

Every member of a county society must be a member of the State Association. Some county societies are carrying on their rolls of membership the names of men who have never been members of the State Association, but in order to obtain recognition they retain a nominal membership in the county society, pay the county dues, but not the State dues. This is distinctly in violation of the by-laws, and secretaries are requested to accept no dues from members or applicants for membership, unless accompanied by their State dues.

The fiscal year of the county society begins January first, and members who are in arrears are virtually held suspended until their annual dues are paid.

The fiscal year of the State Association does not begin until April first, so as to allow county societies to collect and forward dues before the beginning of the Association year. A member of a county society who is in arrears, is held suspended until such arrears are paid, but if not paid within a year he is expelled.

A member under suspension does not participate in the work of the society, nor can he be regarded as a member of the State Association. Only those members of county societies whose dues have been sent to the secretary-treasurer of the State Association are enrolled as members for the current year, and only such members can be accorded the privileges of the annual meeting. A member who allows his dues to become delinquent and thereby becoming suspended after April first, cannot be guaranteed back numbers of the Journal. Remember, all unpaid subscriptions expire April first.

Do not send in a list of the members of your county society unless you send check to cover the State dues of each member. Such a list is worthless to the State secretary.

Do not send in a list of members and a check for an insufficient amount. The State secretary will not know which members should receive credit.

When you make your report, send in only the names of those who have paid their dues and send State dues with the report.

Be very careful to forward correct name and full address, as the mailing list of the Journal is made up from these reports.

In plain language, consider this as a simple business proposition and make such a report as you would make to a railroad corporation or a life insurance company.

STATE SANITARIUM

At the meeting of the trustees of the State Tuberculosis Sanitarium, held this week, the following officers were elected: President, Dr. T. R. Whitley; vice-president, Dr. W. P. Crawford; secretary, Dr. Jeff Davis; executive committee, Dr. Davis, chairman; Dr. H. R. Slack, vice-chairman; Dr. Whitley, Dr. C. H. Richardson, and T. D. Tinsley.

Reports showed the institution to be in a flourishing condition, considering the limited maintenance appropriation.

THE COMING MEETING

Are you preparing to attend the next annual meeting in Augusta, April 17-19? The indications are that this will be one of the most interesting meetings the Association has ever had.

The scientific program is being rapidly filled and the titles show conclusively that from this standpoint, the coming meeting will surpass all its predecessors.

The Augusta members are preparing to entertain the visitors in a way that they will not soon forget.

The usual reduced rates will be obtained.

We feel that you cannot afford to miss this meeting. ARE YOU GOING?

SEND TITLES

In our last issue we requested that all members who contemplated presenting papers at the Augusta meeting, furnish titles to the secretary at once. The responses were so few that we fear the notice was overlooked, and we later sent cards of inquiry to every member of the Association. If you did not get one, remember that you are invited and expected to contribute to the scientific program of the meeting, and a title sent now will be placed on the official program. DO NOT DELAY!

CONFEDERATE ARMY SURGEONS TO MEET

The Association of Army and Navy Surgeons of the Southern Confederacy will hold their annual meetin in Macon, Ga., in May. Dr. E. D. Newton, of Atlanta, is president of the association.

BOOK NOTES

We are in receipt of two volumes that especially appeal to us, in that they are both comparatively novel, and the authors of both are members of this Association. "Pellagra," by Dr. Geo. M. Miles, of Atlanta, is the most comprehensive book so far published on this subject, and for clearness and succinctness is one of the most interesting books we have had the pleasure of perusing for a long time. It should be in the hands of every member of this Association. The other book is by Dr. J. H. Honan, of Augusta, and is a "Handbook to Medical Europe."

Dr. Honan's thorough familiarity with the medical centers of Europe, renders him especially competent to advise physicians contemplating a course of study abroad, as to the advantages and disadvantages of the various countries and universities. This handbook is of inestimable value to you if you expect to study abroad.

Dr. Stewart R. Roberts, of Atlanta, has just had issued a volume on the subject of pellagra, which we have not had the pleasure of seeing. We are glad that our members are taking the time to write books, and we will publish reviews of those mentioned above in our next issue.

FIRST DISTRICT MEDICAL SOCIETY

Program of the Mid-Winter Meeting Held at Millen, Thursday, February 29, 1912

Invocation—Rev. R. L. Bolton.

Address of Welcome on Behalf of the City of Millen—Mayor I. O. Parker.

Address of Welcome on Behalf of the County Medical Society—Dr. L. J. Belt, president of the Jenkins County Medical Society.

Response—Dr. J. Lawton Hiers, councillor of the First District.

Address—The Medical Association of Georgia—Dr. W. L. Fitts, of Carrollton, president of the State Medical Association.

Address—Dr. W. H. Doughty, of Augusta.

Paper—The Nature of Snake Venom—Dr. Geo. R. White, of Savannah.

Paper—The Differential Diagnosis of Pellagra—Dr. C. H. Lavinder, of the

United States Public Health and Marine Hospital Service.

Paper—Report of Clinical Cases—Dr. J. W. Daniel, of Savannah.

Paper—Malaria and Its Treatment—Dr. H. A. Jones, of Millen.

Paper—Unusual Conditions in Goitre Operations—Dr. T. P. Waring, of Savannah.

Paper—Prevention of Deafness—Dr. W. C. Lyle, of Augusta, secretary-treasurer Medical Association of Georgia.

Paper—Obstructive Lesions of the Nasal Septum—Dr. J. L. Jackson, of Savannah.

Paper—Ambrose Pare and His Times—Dr. T. J. Charlton, of Savannah.

Paper—The Care of Patients Suffering with Broken Compensation—Dr. E. E. Murphey, of Augusta.

Paper—Diphtheria and Intubation—Dr. L. V. Strickland, of Statesboro.

Paper—The Book and Journal Club as a Factor in the County Medical Society—Dr. V. H. Bassett, of Savannah.

Paper—Cystic Ovary—Dr. A. J. Mooney of Statesboro.

Paper—Uncinariasis—Dr. Chas. Usher, of Savannah.

Paper—The Surgical Aspects of Constipation—Dr. C. M. Rakestraw, of Savannah.

Paper—Problems and Principles of Drainage—Dr. A. J. Waring, of Savannah.

Paper—Excision of the External Organs of Generation for Obstinate Pruritus—Dr. R. C. Franklin, of Graymont.

Paper—Vaccine Therapy—Dr. A. B. Cleborne, of Savannah.

Committee on Arrangements—Dr. J. L. Kirkendol, of Millen, chairman; Drs. H. A. Jones and R. Y. Lane, of Millen.

Committee on Program—Dr. E. T. Coleman, of Graymont; Dr. J. M. Sigman, of Savannah; Dr. L. V. Strickland, of Statesboro; Dr. J. W. Daniel, of Savannah; Dr. J. Lawton Hiers, of Savannah; Dr. V. H. Bassett, of Savannah.

Officers of the First District Medical Society

Dr. E. T. Coleman, of Graymont, president.

Dr. J. W. Daniel, of Savannah, first vice-president.

Dr. L. V. Strickland, of Statesboro, second vice-president.

Dr. J. M. Sigman, of Savannah, secretary-treasurer.

Dr. J. Lawton Hiers, of Savannah, councillor.

FOURTH DISTRICT MEDICAL ASSOCIATION

Minutes of Meeting Held at Columbus February 20, 1912

Meeting called to order by President C. A. Dexter in the ballroom of the Racine Hotel.

Address of Welcome—Dr. C. L. Williams, Columbus.

Response—Dr. F. P. Norman, Greenville.

The following papers were then read and discussed:

Pneumonia and Its Treatment—Dr. J. B. Camp.

Salvarsan—Dr. Wm. L. Champion.

Cystic Colloid Goitre (Operative Technique)—Dr. Wm. S. Goldsmith.

Pre-Operative and Post-Operative Treatment of Appendicitis—Dr. H. Stokes Munroe.

Details of Diagnosis and Summary in Treatment of Pellagra—Dr. Stewart Roberts.

The Association was the guest of the Muscogee County Medical Society at a luncheon given at the Hotel Racine, after which the following officers were elected:

President—Dr. H. J. Goodwin, Roopville.

Vice-President—Dr. Martin Crook, Columbus.

Secretary and Treasurer—Dr. Homer Boatright, Carrollton.

Owing to schedules of trains a motion was made and carried to dispense with the remainder of program, and that the members yet to read, send their papers to the secretary of the State Medical Association.

After deciding to meet in Warm Springs on August 15, 1912, the Society adjourned.

GEORGIA MEDICAL SOCIETY OF SAVANNAH

A regular meeting was held at The De-Soto Hotel on February 13, 1912, at 9 p. m. Members of the Association of Retail Druggists were invited.

Program

Address—The Co-Work of the Pharma-

cist and the Physician—Mr. H. C. Shuptrine, president National Association of Retail Druggists.

Paper—Proprietary Drugs from the Standpoint of the Physician—Dr. T. J. Charlton.

Paper—Proprietary Drugs from the Standpoint of the Pharmacist—Mr. W. D. Jones.

Paper—The Work of the Council of Pharmacy and Chemistry of the American Medical Association—Dr. H. H. Martin.

Dr. A. J. WARING,
Secretary.

A regular meeting was held at The DeSoto Hotel, February 27, 1912, at 9 p. m.

Program

Demonstration of Specimens and Photographs Illustrating the Pathology of Intestinal Obstruction—Dr. V. H. Bassett.

The Aetiology, Symptomatology, Diagnosis and Medical Teratment of Intestinal Obstruction—Dr. J. W. Daniel.

The Surgical Treatment of Intestinal Obstruction, Including Post-Operative Obstruction—Dr. C. M. Rakestraw.

Intestinal Obstruction from Diverticulitis—Dr. W. B. Crawford.

A. J. WARING, M.D.,
Secretary.

Program

Of the regular meeting of the Georgia Medical Society, held Tuesday, March 12, 1912, at The DeSoto Hotel, at 9 p. m:

Symposium on Diseases of the Liver

Report of Cases, Diseases of the Liver—Members of the Society.

Demonstration of Specimens and Photographs illustrating the Pathology of Cystic Liver—Dr. Lafrence Lee.

Congenital Cystic Liver (non-parasitic)—Dr. Jabez Jones, with report of case.

Unusual Gall Bladder Conditions, with reports of cases illustrating the relation between Gall Stones and Pancreatitis—Dr. Craig Barrow.

Acute Yellow Atrophy of the Liver, with report of cases—Dr. T. P. Waring.

A. J. WARING, M.D.,
Secretary.

Program

Of the meeting of the Library Committee, Book and Journal Club, held Tuesday, March 19, 9 p. m., in the office of the City Laboratory:

Address—The Development of a Great Medical Library—Dr. J. Ewing Mears, of Philadelphia.

Demonstration of Rare Books and Autograph Letter of Sir Charles Bell—Dr. E. R. Corson.

Demonstration of Rare and Interesting Books and Papers belonging to the Library of the Georgia Medical Society—Dr. V. H. Bassett.

Miscellaneous Book and Journal Reviews—Members of the Society.

Report of Progress—Library Committee.

GEO. R. WHITE, M.D.,
Chairman.
V. H. BASSETT, M.D.,
Secretary and Librarian.

THE SEVENTH CONGRESSIONAL DISTRICT MEDICAL SOCIETY OF GEORGIA

The Seventh District Medical Society met at Rome, Ga., March 13, 1912, in ninth semi-annual meeting.

Called to order by the president, Dr. W. J. Shaw, of Rome, Ga.

Prayer by Dr. R. B. Headen, of Rome.

Address of Welcome—Col. J. D. McCortney, Rome.

Address of Welcome from Local Society—Dr. W. W. Mangum, of Rome.

Response to Welcome Addresses—Dr. J. P. Bowdion, of Adairsville.

Minutes of last meeting were read and adopted.

The following gentlemen read papers at this meeting:

"Pellagra"—Dr. F. V. Turk, Stilesboro.

"A Review of 104 Emergency Laporotomies"—Dr. R. M. Harbin, Rome.

"The Wassermann Reaction in the Diagnosis of Syphilis"—Dr. J. Edgar Paullin, Atlanta.

"What is a Stimulant?"—Dr. May F. Jones (Shorter College), Rome.

"Constipation"—Dr. R. H. Wicker, Rome.

There were several other papers to be read, but were left off on account of the lateness of the hour.

The following officers were elected:

President—Dr. A. B. Greene, Cartersville.

Vice-President—Dr. F. V. Turk, Stilesboro.

Secretary-Treasurer—Dr. T. Lowry, Euharlee.

The next meeting will be held at Rome, on the second Wednesday in October, 1912.

The meeting was held at The Coosa Country Club, at which place the society were guests of the Floyd County Medical Society, at a delicious luncheon.

This is the best meeting the society ever had, and everyone present enjoyed the day very much.

PRESIDENT REMSEN'S TRIP

Dr. Ira Remsen, president of Johns Hopkins University, attended the annual banquet of the New York Alumni Association, March 6. On March 9 he was the guest of honor at the first annual banquet of the Alumni Association of Georgia, and on the same day a reception was tendered him by the University Club of Atlanta. On March 11 he spoke before students and faculty of the Georgia School of Technology, and on March 12 he addressed the students of the University of Georgia, Athens.

COLLEGE TRANSFERRED

The old board of trustees of the Medical College of Georgia, Augusta, met March 6 and formally authorized the vice-presidents and secretary to convey to the University of Georgia the property and assets of the Medical College, in accordance with an act passed by the last State Legislature.

PERSONAL

Dr. L. B. Clarke has been elected president; Dr. C. W. Strickler, vice-president, and Dr. L. P. Stephens, secretary, of the medical board of Grady Hospital, Atlanta. ——Dr. W. D. Jennings, Jr., has been appointed city physician of Augusta.——Dr. Raymond V. Harris has received a temporary appointment as assistant health officer of Savannah, and Dr. Marion R. Thomas has been appointed city physician, both of Savannah.

DEATH OF NEGRI, OF RABIES FAME

Professor A. Negri, of the University of Pavia, Italy, has died. He discovered in the tissues of rabies the bodies called by his name which permit the early diagnosis of the disease. Negri also demonstrated that malaria can be eradicated by thorough treatment between epidemics of those affected.

The more money The Journal of the Medical Association of Georgia makes out of its advertisements the less it costs the State Association to run the paper. This means that every member of the State Association has an interest in the advertising columns. If one business firm advertises and another does not, patronize the one that does. It is money in your pocket.

IN THE SENATE OF THE UNITED STATES

April 6, 1911

Mr. Owen introduced the following bill, which was read twice and referred to the Committee on Public Health and National Quarantine:

A BILL

To establish a Department of Health, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That there be at the seat of government an executive department known as the Department of Health, and a Director of Health, who shall be the head thereof; and the provisions of title four of the Revised Statutes, including all amendments thereto, are hereby made applicable to said department. The Director of Health shall be appointed by the President, by and with the advice and consent of the Senate, at a salary of dollars per annum and with tenure of office like that of the heads of the other executive departments. And said Director shall cause a seal to be made for the Department of Health, of such de-

vice as the President approves, and judicial notice shall be taken of said seal.

Sec. 2. That there be in the Department of Health an assistant to the Director of Health, designated and known as the Commissioner of Health, who shall be a skilled sanitarian, appointed by the President, by and with the advice and consent of the Senate, who shall serve at the pleasure of the President, and who shall receive a salary of dollars per annum. The Commissioner of Health shall perform such duties as are required by law and such as are prescribed by the Director of Health. There shall be also a chief clerk, a disbursing clerk, and such other employees as Congress may from time to time authorize. The Auditor for the State and Other Departments shall receive and examine all acounts of moneys paid in and of moneys expended on account of the Department of Health, and shall certify the balance arising thereon to the Division of Bookkeeping and Warrants of the Treasury Department, and forthwith send a copy of each such certificate to the Director of Health.

Sec. 3. That it be the province and duty of the Department of Health to foster and promote all matters pertaining to the conservation and improvement of the public health and to collect and disseminate information relating thereto; Provided, That this Act shall not be construed as attempting to authorize the Department of Health to exercise or attempt to exercise, without express invitation from the chief executive or other proper authority of the State, any function belonging exclusively to such State, or to enter any premises in any State without the consent of the owner or occupant thereof; but the Director of Health, upon request of the chief executive or other proper authority of any State, Territory, the District of Columbia, or any insular possession, may detail for limited periods ployees, from the Department of Health to assist the health authorities of such State, Territory, District or insular possession in protecting and promoting the health of the people of such jurisdiction; And provided further, That the Department of Health established by this Act shall have no power to regulate the practice of medicine or the practice of healing, or to interfere with the right of a citizen to employ the practitioner of his choice within any State of the Union, and all appointments within the department, including the head of the department, shall be made without discriminating against any school of medicine or of healing.

Sec. 4. That to the Department of Health are hereby transferred the following bureaus, divisions, and other branches of the Government, and all that pertains to them, and they and each of them shall remain under the supervision and direction of the Director of Health until otherwise directed by law, namely:

(a) From the Department of the Treasury is transferred the Public Health and Marine Hospital Service.

(b) From the Department of Agriculture is transferred that part of the Bureau of Chemistry charged with the investigation of the adulteration of foods, drugs, and liquors, and with the execution and enforcement of the Act of Congress entitled "An Act for preventing the manufacture, sale, or transportation of adulterated or misbranded or poisonous or deleterious foods, drugs, medicines, and liquors, and for regulating traffic therein, and for other purposes," approved June thirtieth, nineteen hundred and six.

(c) From the Department of Commerce and Labor is transferred the Division of Vital Statistics, Bureau of the Census.

And the President is hereby authorized to transfer to the Department of Health at any time either the whole or any part, as to him may seem best, of any bureau, division, or other branch of the Government engaged in work pertaining to the public health, except the Medical Department of the Army and the Bureau of Medicine and Surgery of the Navy.

And each and every function, authority, power, duty, and jurisdiction, of whatsoever character it may be, vested at the time of any transfer aforesaid in the head of the executive department from which such bureau, division, or other branch of the Government is transferred, shall, to the extent to which such function, authority, power, duty, or jurisdiction pertains to such bureau, division, or other branch of the Government, immediately upon such transfer become vested and thereafter remain vested in the Director of Health.

All land, buildings, furniture, apparatus, equipment, and property of whatsoever

description, and all official records and papers, in the custody of any executive department from which any bureau, division, or other branch of the Government is transferred as aforesaid and pertaining to the business of such transferred bureau, division, or othe rbranch of the Government, shall at th time of such transfer, or as soon thereafter as practicable, and in so far as such action can be taken withuot hindering the work of the executive department from which such transfer is made, be given over into the custody of the Department of Health. And all unexpended balances of appropriations available at the time of such transfer for the use of any such transferred bureau, division, or other branch of the Government, or which may become available thereafter, shall be and remain available, in similar manner and to the same extent as if no transfer had been made.

Sec. 5. That within the Department of Health there shall be the following bureaus:

a, Bureau of Sanitary Research;
b, Bureau of Child Hygiene;
c, Bureau of Vital Statistics and Publications;
d, Bureau of Foods and Drugs;
e, Bureau of Quarantine;
f, Bureau of Sanitary Engineering;
g, Bureau of Government Hospitals;
h, Bureau of Personnel and Accounts,

and the Director of Health is hereby authorized to arrange and rearrange from time to time, with the approval of the President, the functions, duties, personnel, papers, records, and property, and the work, resources, and equipment generally, coming into the jurisdiction and control of the Department of Health by the operation of this Act, so as most efficiently and economically to organize and maintain the several bureaus herein named and such divisions and offices thereof as to said Director seems proper; but in arranging and rearranging the personnel, the rank, pay, and allowances of the officers of the Public Health and Marine Hospital Service commissioned at the time of the transfer of that service to the Department of Health shall not, by reason of anything in this Act contained, be diminished. And the Director of Health may call upon the heads of other executive departments for information in their possession whenever such information is needed for the efficient and economical working of the Department of Health.

Sec. 6. That the President is hereby authorized to detail officers and employees fro many of the several executive departments of the Government for duty under the Director of Health when so requested by said Director, and to detail officers and employees in the service of the Department of Health to any of the other executive departments upon request of the head of such department, provided such detail can be made without prejudice to the public service, to carry into effect the purpose and intent of this Act; but officers and employees so detailed shall receive no additional compensation, but shall be paid such actual and necessary expenses as they incur in the discharge of their duties.

Sec. 7. That the Director of Health may, in his discretion and with the approval of the President, appoint an advisory board of not more than seven members, to confer with him upon his request, from time to time as he deems necessary, concerning the work of the Department of Health and the health of the people. The members of said board shall be selected because of their special knowledge of matters relating to the public health, and each shall hold office for a term of seven years or until his successor is appointed, except that the appointments first made, and appointments thereafter made to fill unexpired terms and terms of members who have held over beyond the periods of their original appointments, shall be made so that not more than one member shall retire during any one fiscal year. No member of any such advisory board shall receive any compensation for his services, but each shall be paid all actual expenses necessarily incurred in the discharge of his duties. And from and after the passage of this Act the advisory board for the Hygienic Laboratory created by section five of an Act entitled "An Act to increase the efficiency and change the name of the United States Marine Hispital Service," approved July first, nineteen hundred and tow, be, and the same hereby is, abolished.

Sec. 8. That the Director of Health may, whenever in his judgment public interests would be promoted by so doing, invite the duly constituted health authorities

of all or of any of the States, Territories, the District of Columbia, and insular possessions as to him may seem advisable, each to send one delegate to confer with him or his duly appointed representative or representatives and with each other, at such time and place as he may designate, concerning any particular matter or matters relating to the public health; and it shall be the duty of the Director of Health, upon the written application of the duly constituted health authorities of not less than five States, Territories, the District of Columbia, or insular possessions, stating the particular matter or matters which it is desired to consider, to appoint a time and place, and to call a conference of the health authorities of the States, Territories, the District of Columbia, and insular possessions that united in the request therefor, and personally or through his duly appointed representative or representatives to be present at such conference; but every State, Territory, the District of Columbia, and insular possession shall be notified of every conference, and if practicable be afforded an opportunity of being present and participating in its proceedings. And from and after the passage of this Act annual and other conferences of State and Territorial boards of health, quarantine authorities, and State health officers, provided for by section seven of an Act entitled "An Act to increase the efficiency and change the name of the United States Marine Hospital Servic ," approved July first, nineteen hundred and two, be, and the same are hereby, abolished.

Sec. 9. That, except as expressly provided in this Act, nothing herein contained shall be construed as limiting or abrogating any function, right, or duty imposed by law upon any existing bureau, division, or other branch of the Government; but such bureaus, divisions, and other branches of the Government as are by this Act or by authority thereof transferred to the Department of Health shall continue, under direction of the Director of Health, to have such functions, duties, and rights as they have at the time of such transfer; and in the case of such bureaus, divisions, and other agencies of the Governemnt as are transferred in part only, the part not transferred shall continue to have and to exercise all such functions, duties, and rights, except such as specifically relate to the part transferred to the Department of Health, in the same manner and to the same extent as if no such transfer had been made.

Sec. 10. That the Director of Health shall annually submit to Congress a report in writing showing the operations of the Department of Health during the last preceding fiscal year, which report shall give an account of all moneys received and all moneys disbursed on account of such operations. He shall make such other reports from time to time as may be required by the President, or by either House of Congress, and such as are in his judgment necessary or expedient.

Sec. 11. That ———— dollars be, and the same are hereby, appropriated to carry into effect the provisions of this Act, out of any money in the Treasury not otherwise appropriated.

Sec. 12. That all Acts and parts of Acts contrary to the provisions of this Act or inconsistent therewith be, and the same are hereby, repealed.

Sec. 13. That this Act shall take effect on and after July first, nineteen hundred and twelve.

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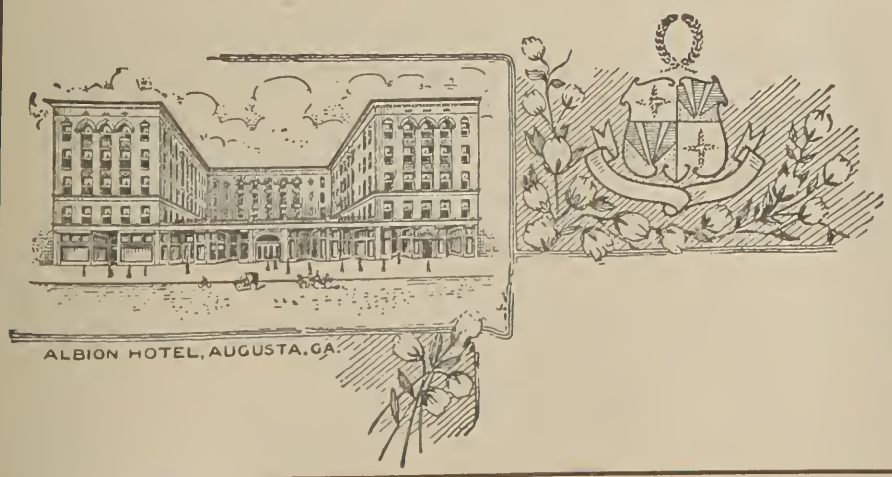

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April 17-18-19, 1912.

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LIST OF NATIONAL MEDICAL SOCIETIES

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SOCIETY	PRESIDENT	SECRETARY	NEXT ANNUAL MEETING
AMERICAN MEDICAL ASSOCIATION	John B. Murphy, Chicago	Alexander R. Craig, 535 Dearborn ave., Chicago	Atlantic City, June 4-7, 1912.
American			
Academy of Medicine	Alexander R. Craig, Chicago	Charles McIntire, Easton, Pa	Atlantic City, June, 1912.
Academy of Ophthal. and Oto-Laryng	George F. Suker, Chicago	Lee M. Francis, 575 Delaware ave., Buffalo	Niagara Falls, Aug. 20-22, 1912.
Association of Anatomists	Ross G. Harrison, New Haven, Conn	G. Carl Huber, Ann Arbor, Mich	December, 1912.
Association of Genito-Urinary Surgeons	Edward Martin, Philadelphia	J. Bentley Squier, 49 E. 49th st., New York	Philadelphia, June 7-8, 1912.
Association of Obstetricians and Gyn	Xavier O. Werder, Pittsburgh	E. G. Grinkle, Cincinnati	Toledo, September, 1912.
Assn. of Pathologists and Bacteriologists	R. M. Pearce, Philadelphia	H. C. Ernst, Harvard Med. School, Boston	Philadelphia, April 5-6, 1912.
Association of Railway Surgeons	Rhett Goode, Mobile, Ala	Louis J. Mitchell, 132 N. Wabash ave., Chicago	Chicago, Oct. 16-18, 1912.
Climatological Association	A. D. Blackader, Montreal	Guy Hinsdale, Hot Springs, Va	Hartford, Conn., June 10-12, 1912.
Dermatological Association	Grover W. Wende, Buffalo	James M. F. Winfield, 47 Halsey st., Brooklyn	St. Louis, May 23-25, 1912.
Electro-Therapeutic Ashsociation	William D. McFee, Haverhill, Mass	J. W. Travell, 27 E. 11th st., New York	Baltimore, September, 1912.
Gastro-Enterological Association	W. B. Cannon, Boston	F. W. White, 416 Martborough st., Boston	Atlantic City, June 3-4, 1912.
Gynecological Society	Howard A. Kelly, Baltimore	LeRoy Broun, 148 W. 77th st., New York	Baltimore, May 28-30, 1912.
Laryngological Association	James E. Newcomb, New York	Harmon Smith, 44 W. 49th st., New York	Atlantic City, May 9-11, 1912.
Laryn., Rhin. and Otol. Society	G. Hudson Makuen, Philadelphia	Thos. J. Harris, 117 E. 40th st., New York	June, 1912.
Medico-Psychological Association	Hubert Work, Pueblo, Colo	Charles G. Wagner, Binghamton, N. Y	Atlantic City, N. J., May 28-31, 1912.
Neurological Association	William N. Bullard, Boston	Alfred R. Allen, 2013 Spruce st., Philadelphia	Boston, Mass., May 30-June 1.
Ophthalmological Society	Edward Jackson, Denver	W. M. Sweet, 1205 Spruce st., Philadelphai	Atlantic City, June 12-13, 1912.
Orthopedic Association	Virgil P. Gibney, New York City	R. R. Fitch, 209 East ave., Rochester, N. Y	Atlantic City, May 30-June 1.
Otological Society	Edw. B. Dench, New York	James F. McKernon, 62 W. 52d st., New York	Atlantic City, June 10-11.
Pediatric Society	Augustus Caille, New York	S. S. Adams, 1 Dupont Circle, Washington, D. C	Hot Springs, Va., May 29-31, 1912.
Physicians, Association of	J. George Adami, Montreal	Geo. M. Kober, 1819 Q st., Washington, D. C	Atlantic City, May 7-8, 1912.
Physiological Society	S. J. Meltzer, New York	A. J. Carlson, University of Chicago, Chicago	Cleveland, O., Dec. 26-28, 1912.
Proctologic Society	John L. Jelks, Memphis, Tenn	L. H. Adler, Jr., 1610 Arch st., Philadelphia	Atlantic City, June 4-5, 1912.
Public Health Association	John N. Hurty, Indianapolis, Ind	W. C. Woodward, 1766 Lanier pl., Washington, D. C.	Washington, September, 1912.
Roentgen Ray Society	Frederick H. Baetjer, Baltimore, Md	Henry K. Pancoast, 4238 Pine st., Philadelphia	Niagara Falls, N. Y., Sept., 1912.
Society of Tropical Medicine	Jos. H. White, U. S. P. H. & M. H. S.	John M. Swan, 457 Park ave., Rochester, N. Y	Atlantic City, June 3, 1912.
Surgical Association	Arpad G. Gerster, New York	Robt. G. LeConte, 1530 Locust st., Philadelphia	Montreal, May 29-31, 1912.
Therapeutic Society	Alex. D. Blackader, Montreal, Que	N. P. Barnes, 212 Maryland ave., Washington, D. C.	Montreal, May 31-June 1, 1912.
Urological Association	L. E. Schmidt, Chicago	H. A. Fowler, Teh Cumberland, Washington, D. C.	New York City, April 2-4, 1912.
Assn. of Military Surgeons of the U. S	C. P. Wertenbaker, U.S.P.H.& M.H.S.	C. Lynch, 716 Union Trust Bldg., Washington, D. C.	Baltimore, 1912.
Congress Am. Phys. and Surgs	Wm. C. Gorgas, Ancon, C. Z	W. R. Steiner, 4 Trinity st., Hartford, Cann	Washington, D. C., May, 1913.
Conference of State and Prov. Bds. of N.A.	W. C. Woodward, Washington, D. C	H. M. Bracken, Capitol Bldg., St. Paul, Minn	Washington, D. C., Sept. 20-21, 1912.
Med. Association of the Southwest	A. L. Blesh, Oklahoma City, Okla	Fred H. Clark, El Reno, Oklahoma	Hot Springs, Ark., Oct. 8-10, 1912.
Mississippi Valley Medical Association	Louis Frank, Louisville, Ky	Henry E. Tuley, 111 W. Ky. st., Louisville, Ky	
Missouri Valley, Medical Society of the	John M. Bell, St. Joseph, Mo	Chas. Wood Fassett, St. Joseph, Mo	Colfax Springs, Ia., March 21-22, '12.
Nat. Assn. for Study and Prev. of Tuber	Mazyck P. Ravenel, Madison, Wis	H. B. Jacobs, 11 Mt. Vernon pl., Baltimore	May, 1912.
Nat. Assn. for Study of Epilepsy	William T. Shanahan, Sonyea, N. Y	J. F. Munson, Sonyea, N. Y	Vineland, N. J., June 3, 1912.
Southern Medical Association	Jas. M. Jackson, Jr., Miami, Fla	Seale Harris, Mobile, Ala	Jacksonville, Fla., 1912.
Southern Surgical and Gyn. Association	J. M. T. Finney, Baltimore	W. D. Haggard, Jr., 148 8th Ave. N., Nashville	Old Point Comfort, Va., 1912.
Western Surgical and Gyn. Association	L. L. McArthur, Chicago	Arthur T. Mann., Donaldson Bldg., Minneapolis	Cincinnati, 1912.

LIST OF STATE MEDICAL SOCIETIES

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SOCIETY	PRESIDENT	SECRETARY	NEXT ANNUAL MEETING
Alabama, Medical Assn. of the State of	L. Coleman Morris, Birmingham	J. N. Baker, 602 So. Perry st., Montgomery	Birmingham, April 16, 1912.
Arizona Medical Association	Francis E. Shine, Bisbee	John W. Flinn, Prescott	Bisbee, May 7, 1912.
Arkansas Medical Society	Morgan Smith, Little Rock	C. P. Meriwether, 309 S. Tr. Bldg., Little Rock	Hot Springs, May 13-16, 1912.
California, Medical Soc. of the State of	Thos. W. Huntington, San Francisco	Philip M. Jones, Butler Bldg., San Francisco	Del Monte, April 16-18. 1912.
Colorado State Medical Society	Walter A. Jayne, Denver	Melville Black, Metropolitan Bldg., Denver	Pueblo, Sept. 24-26, 1912.
Connecticut State Medical Society	John G. Stanton, New London	Walter R. Steiner, 4 Trinity st., Hartford	New Haven, May 22, 1912.
Delaware State Medical Society	Frank L. Springer, Newport	G. W. K. Forrest, 901 Jackson st., Wilmington	Wilmington, Oct. 8, 1912.
District of Columbia, Medical Society of	John B. Nichols, R. I. ave., Washington	H. C. Macatee, 2465 18th st., N. W., Washington	
Florida Medical Association	Albert H. Freeman, Starke	J. D. Fernandez, Jacksonville	Tampa, May 9, 1912.
Georgia, Medical Association of	William L. Fitts, Carrollton	Wm. C. Lyle, Augusta	Augusta, April 17-19, 1912.
Hawaiian Territorial Medical Society	W. G. Rogers, Honolulu	Wm. C. Hobdy, Honolulu	
Idaho State Medical Association	William F. Howard, Pocatello	Ed. E. Maxey, Boise	Portland, Ore., 1912.
Illinois State Medical Society	W. K. Newcomb, Champaign	Edmund W. Weis, Ottawa	Springfield, May 21-23, 1912.
Indiana State Medical Association	William F. Howat, Hammond	Chas. N. Combs, Terre Haute	Indianapolis, Sept. 26-27, 1912.
Iowa State Medical Society	L. W. Littig, Davenport	V. L. Treynor, Council Bluffs	Burlington, May 8-10, 1912.
Isthmian Canal Zone, Med. Assn. of	Lloyd Noland, Cristobal	D. F. Reeder, Ancon	
Kansas Medical Society	John T. Axtell, Newton	Chas. S. Huffman, Columbus	May, 1912.
Kentucky State Medical Association	J. G. Carpenter, Stanford	Arthur T. McCormack, Bowling Green	Louisville, Oct. 12, 1912.
Louisiana State Medical Society	Richard O. Simmons, Alexandria	Joseph D. Martin, 141 Elk pl., New Orleans	New Orleans, April 23-25, 1912.
Maine Medical Association	Stanley P. Warren, Portland	W. Bean Moulton, 622 Congress st., Portland	June, 1912.
Maryland, Medical and Chir. Faculty of	Hugh H. Young. Baltimore	John Ruhrah, 1211 Cathedral st., Baltimore	April, 1912.
Massachusetts Medical Society	Geo. B. Shattuck, Boston	Walter L. Burrage, 282 Newbury st., Boston	Boston, June 11-12, 1912.
Michigan State Medical Society	D. Emmett Welsh, Grand Rapids	Wilfrid Haughey, 24 W. Main st., Battle Creek	Muskegon, June, 1912.
Minnesota State Medical Association	Haldor Sneve, St. Paul	Thos. McDavitt, 210 Lowry Bldg., St. Paul	Duluth, 1912.
Mississippi State Medical Association	Daniel J. Williams, Ellisville	E. F. Howard, First Nat. Bank Bldg., Vicksburg	Jackson, April 9-11, 1912.
Missouri State Medical Association	Robert H. Goodier, Stoutsville	F. J. Goodwin, 3525 Pine st., St. Louis	Sedalia, Maq, 1912.
Montana State Medical Association	T. C. Witherspoon, Butte	Herbert D. Kistler, Murray Hospital, Butte	Helena, May 8, 1912.
Nebraska State Medical Association	Andrew D. Nesbit, Tekamah	Jos. M. Aikin, 466-468 Brandeis Block, Omaha	Lincoln, May 7-9, 1912.
Nevada State Medical Association	B. F. Cunningham, Reno	Martin A. Robison, Reno	Reno, Sept. 10-12, 1912.
New Hampshire Medical Society	Geo. W. McGregor, Littleton	D. E. Sullivan, 7 No. State st., Concord	Concord, May 8-9, 1912.
New Jersey, Medical Society of	Daniel Strock, Camden	W. J. Chandler, 65 So. Orange ave., So. Orange	Spring Lake, June, 1912.
New Mexico Medical Society	Robert L. Bradley, Roswell	R. E. McBride, Las Cruces	Roswell, 1912.
New York, Med. Soc. of the State of	Wendell C. Phillips, New York City	Wisner R. Townsend, 17 West 43d st., New York	Albany, April 16-18, 1912.
North Carolina, Med. Soc. of the State of	Alfred A. Kent, Lenoir	David A. Stanton, High Point	June, 1912.
North Dakota State Medical Association	Clinton E. Spicer, Litchville	H. J. Rowe, Casselton	Valley City, May 8-9, 1912.
Ohio State Medical Association	Horace Bonner, Dayton	J. H. J. Upham, 186 E. State st., Columbus	Dayton, May 7-9, 1912.
Oklahoma State Medical Association	Charles L. Reeder, Tulsa	Claude A. Thompson, Muskogee	Shawnee, 1912.
Oregon State Medical Association	E. A. Sommer, Portland	M. B. Marcellus, 901-3 Selling Bldg., Portland	
Pennsylvania, Med. Soc. of the State of	James Tyson, Philadelphia	Cyrus Lee Stevens, Athens	Scranton, 1912.
Philippine Islands Medical Association	R. E. L. Newberne, Manila	V. L. Andrews, Manila	Manila.
Rhode Island Medical Society	Frederick T. Rogers, Providence	S. A. Welch, 253 Washington st., Providence	
South Carolina Medical Association	J. Wilkinson Jervey, Greeneville	Edgar A. Hines, Seneca	Columbia, April 16-18, 1912.
South Dakota State Medical Association	William G. Smith, Sidney	R. D. Alway, 212 Main st., Aberdeen	Mitchell, 1912.
Tennessee State Medical Association	C. J. Broyles, Johnson City	Perry Bromberg, Nashville, 315 Jackson Bldg	Chattanooga, April 9-11, 1912.
Texas, State Medical Association of	Jos. S. McCracken, Mineral Wells	H. Taylor, W. National Bank Bldg., Fort Worth	Waco, 1912.
Utah State Medical Association	Robert W. Fisher, Salt Lake City	W. Brown Ewing, Salt Lake City	Ogden, 1912.
Vermont State Medical Society	F. T. Kidder, Woodstock	C. H. Beecher, Burlington	
Virginia, Medical Society of	Hugh M. Taylor, Richmond	Paulus A. Irving, Farmville	Norfolk, Oct. 22-25, 1912.
Washington State Medical Association	Leon L. Love, Tacoma	C. H. Thomson, Seattle	Tacoma, 1912.
West Virginia State Medical Association	C. O. Henry, Fairmont	A. P. Butt, Davis	Webster Springs, July, 19122.
Wisconsin, State Medical Society of	J. M. Dodd, Ashland	Charles S. Sheldon, 251 Langdon st., Madison	Wausau, May 22-24, 1912.
Wyoming State Medical Society	A. C. Hamilton, Thermopolis	W. H. Roberts, Sheridan	

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SURGERY OF THE LARGE INTESTINES *

Albert Vander Veer, M.D., Albany, N. Y.

When requested some time ago by my good friend, your President, to present at this meeting a paper or talk on some surgical subject, we decided that "Surgery of the Large Intestines" might be of some interest.

In thinking it over and remembering that in some previous advances in our intra-peritoneal work our earnestness carried us too far in not a few instances, I have thought best to review somewhat briefly the development of abdominal surgery as it has been presented in my time. All I have to say is from memory, being away from my library and notes on the subject.

To me there is nothing more fascinating than a review of the advances made in our profession the past fifty years.

I congratulate you that you have with you this evening one who is an authority, through his splendid book and experience, and who will present the "Surgery of the Sigmoid and Rectum".

I believe there is scarcely one in this audience who can, from personal contact, recall our efforts made, beginning in 1863 and for nearly two decades after, the disappointment we experienced when operating within the peritoneal cavity. I recall with great respect the quoted remarks of the professor of Obstetrics and diseases of women in the College of Physicians and Surgeons, New York, who, on entering the lecture-room, stated that he had been requested by the faculty to deliver a course

* Read before the Richmond County Medical Society March 12, 1912.

of lectures on Ovariotomy, and said: "Gentlemen, you need not be disturbed, for it is a subject of which I know absolutely nothing". So unfortunate was the result of these operations at that time, that soon after this statement the trustees of the Pennsylvania Hospital passed a resolution forbidding the operation of ovariotomy by the surgical staff of that institution.

It is true that in this country Dr. Peaslee as an anatomist had made an excellent reputation. At one time his percentage of successes reached seventy-five, owing undoubtedly to his knowledge of drainage through Douglas' cul-de-sac, and with the two brothers, Washington and John L. Atlee, was working earnestly to relieve these cases of ovarian tumors, while Kimball and Burnham, of Lowell, Mass., were also operating in that section of the country in private houses with an encouraging degree of success. But aside from these operators, little comfort came to other members of the profession in endeavoring to advance this line of surgery.

The diagnosis of ovarian tumors was being studied with great earnestness. It was then the custom to tap in all cases and the fluid was observed with great care. I can well recall to mind the statements made by the elder Atlee that a fluid that was dark in color indicated malignancy and these cases were not proper ones for operation.

Among the pathological conditions studied under the microscope and looked for with great earnestness, was the Drysdale cell, a granular mass, which later proved to be of little importance.

The condition of our hospitals at that time contra-indicated the opening of the abdominal cavity. I well remember an operation done in the Albany Hospital in 1869 by one of the ablest operators in this country, a case of tumor in the right inguinal region, in a middle-aged man, and which had been studied by several of our best surgeons. It was believed to be extra peritoneal, and an operation advised. The incision was made in a few moments, the peritoneal cavity was opened, the small intestines presented, the wound was closed at once, and the patient died within thirty-six hours of acute peritonitis. Twenty years after, in the same amphitheatre and after the room had been thoroughly cleansed, no more autopsies held in it, and the first trained nurse known in the institution present, a precisely similar operation was done, the abdomen opened, the intestines held back by large flat sponges, and the patient made an excellent recovery. The last operator could claim no more skill than the first, but the technic was very different, was far more perfect. It might be said that the first operator was in the habit of operating in an alpaca coat that he had worn for many years, sleeves and front covered with pus and blood from many pervious operations, and with this garment on, would often say to his students after doing a very creditable and serious operation, "Now if we don't get erysipelas in this wound, all will go well ,and the patient make a good recovery." Alas! how little he understood that he was carrying to every patient the very germs that would develop such infectious condition.

In visiting London in 1874 I was greatly impressed with the earnest effort made by Sir Spencer Wells and his assistant, Mr. Knowlsley Thornton, in their effort at diagnosis and operation for the relief of ovarian cysts, particularly the latter, Mr. Thornton, who was studying the various colored fluids and papillomatous growths obtained from multilocular tumors, and especially in regard to what we now know to be malignant conditions. He was very successful and advanced the knowledge of the pathology of these conditions decidedly.

Peritonitis was, of all conditions, the one that they dreaded more than anything else following their operations, and we had not yet come to understand the germ infection of wounds.

I was greatly interested in visiting Dr. Murchison's clinics at this time as he presented his cases of stomach lesions in a most masterly manner, and it was in these lectures that I heard so clearly and distinctly his differential diagnosis regarding gall bladder and liver lesion in describing the sympathetic pain in the right shoulder, and of ulcer of the stomach, a similar pain radiating out through the left shoulder. He also presented a series of cases of malignant and non-malignant diseases, in which sinuses had formed in connection with the stomach, and the like of which I have not seen since.

Mr. Joseph Lister was at that time, evidently having derived his desire for a better understanding of suppuration from the investigations being made by Pasteur and Tyndall, working faithfully in his use of the carbolic acid spray in his endeavor to so dress wounds as to exclude the atmosphere. He was most painstaking and persevering in this line of work and did much in relieving the old Edinburgh Infirmary of infectious conditions. One could not help being charmed with the advances to be observed in his results.

A visit at this time to Paris, Berlin, Vienna and other medical centers, saw very little abdominal work being accomplished. Returning, I recall with a good deal of sadness, efforts made to work in carbolic acid spray as applied to lesions, within the abdominal cavity. Our patients carried a large mortality of kidney infection and it so seriously affected the operator and assistants that we were forced to abandon it.

The work now being accomplished in the study of pathological micro-organisms by the Germans was inspiring much confidence. This, together with the review of the studies of the pelvis from a pathological standpoint made many years previous by Bernitz and Goupil, with the autopsies made by Formad on deaths from inflammation of the bowels and peritonitis and the advanced work by Fitz, who gave us the classification of appendicitis and the nearer approach to anti- and aseptic work, brought a degree of confidence that a little later was to mark a great advance in abdominal surgery. About this time T. Gaillard, Thomas, and Hunter, of New York, were meeting with a considerable degree of success in their avariotomies.

Lister's work was constantly along a line of antiseptic treatment, but in 1884 Mr. Lawson Tait, together with Mr. Bantock, were advancing along lines of simple cleanliness and bringing about the most remarkable results. At this time I spent nearly three months with Mr. Tait, and respected him greatly for his reverence for Sir Spencer Wells and the work he was doing, and yet he did not agree with him at all in his technic. Mr. Tait had his patients carefully prepared; he was himself very thorough in the washing of his hands and the wearing of an operating gown. His instruments were placed in boiling water in suitable trays. He had but one assistant, standing directly opposite, and the anaesthetic was given by a woman physician to each patient. His wounds were closed with through and through silk suture. No attempt at drainage. Plain simple dressings applied to the external wounds held with adhesive plaster claimed attention. About this time he had a record of one hundred and thirty-nine ovariotomies without a death, and for which he was greatly criticised.

He was much interested in the work being done by Dr. Battey, of Georgia, and the operation bearing his name, as were all American surgeons. Mr. Tait was at this time the most successful diagnostician and operator for extra-uterine pregnancy, also removal of the ovaries for the relief of hemorrhage in connection with soft myomas. At the same time he was making very successful use of his rope and metal clamp for the removal of uterine fibroids and was developing great advances in the removal of suppurating ovaries and pus tubes; also his ligature knot was being studied the world over, and yet it failed in taking the place of the old Peaslee method of applying the silk ligature.

I shall always remember Mr. Tait as the first to move in the development of aseptic surgery. Soon after this our knowledge of sterilization of the operator, the field of operation, of instruments and dressing, the doing away of antiseptics made the success of abdominal surgery greater than any previous period. And yet at this date at Kings College Hospital, London, to which he had been called, and now Sir Joseph Lister, was working faithfully with his spray, green silk and other dressings, with a hope of controlling suppuration in wounds. But his most important line of investigation then was the development of an absorbable ligature.

About this time the development of abdominal surgery in this country presented a marked advance. The formation of special societies, such as The American Surgical Association, The American Association of Gynecologists, The American Association of Obstetricians and Gynecologists, The Southern Surgical and Gynecological Association, and other like organizations in different parts of the country aided greatly. And although in different parts of the United States, the gradual clearing

up of the pelvis regarding pus tubes, the relation of specific disease to these cases, the removal of the various tumors and of the ovaries for most every ill to which unfortunate woman might be afflicted, the pendulum swung too far in the direction of operative work and a halt became necessary. It would be a sad statement, if all were related, of too much being done in the way of operations because of the improved technic that admitted of such proceedures.

In 1888 began the first deliberate work upon the appendix, though a number of us had operated for abscess and drainage under the term "relief of peri-typhilitis by incision." Also about this time began the earnest work relating to the right side of the abdomen, especially the kidney, gall bladder and pylorus. During this period intestinal obstruction claimed renewed attention and we studied more earnestly the experiments made many years previous upon dogs, and his prediction, by Prof. S. D. Gross, the first American author to write clearly on pathological anatomy.

Experimental work in abdominal surgery was now performed by many surgeons and many new operations within the abdomen, was the demand made of the abdominal surgeon, and there seemed to be no limit in the minds of people as to the work the surgeon could do in this part of our anatomy.

To keep abreast of all the advances made in this country and in foreign lands required great physical strength and constant mental activity. The meeting of the British Medical Association in Montreal in 1896, I consider one of the greatest factors in leveling our views and bringing about a more sane and conservative line of abdominal operations.

Here all of us had the pleasure of meeting Lord Lister, and who, in his most charming modest way, told how he had solved many surgical problems. I desire to note here at this point that to Mr., Sir Joseph, and Lord Lister, we are, perhaps, more fully indebted for our great advance in surgery than to any other one individual. His life has been a long useful one, and within a few days only has he passed to his reward.

Permit me, of all the many operations done within the abdominal cavity, to relate what I would keep most in mind, gastrectomy for a well defined malignant growth and in which there is as yet no marked involvement of the lymph glands.

There are not many of these cases, for it is to be regretted that the family physician is yet too dilatory in making use of proper and advanced methods of examining his patients, and not until a tumor can be felt is the surgeon called in; then, in a percentage of the cases, it is too late to do a radical operation. Recently I have heard from one of my cases of gastrectomy, operated on nine years ago, well in every respect.

Resection of small growths and in some cases ulcers, the latter, however, often reached by inversion of peritoneal surfaces by proper form of suture, is to be endorsed.

My experience in resecting large portions of the stomach—adhesions being present—and attempting to dissect out lymph glands, has been discouraging, and I am quite sure this has been the result with my associates. Gastro-enterostomy, even from anterior wall, gives these patients great relief and at times a considerable lengthening of life.

Gastro-enterostomy in inoperable cases of cancer makes these patients much more comfortable and the care on the part of the physician, nurse and friend less distressing.

There are few operations in stomach surgery that has brought so much relief as Finney's operation, or Gastro-enterostomy, done by the Murphy button, clamp or otherwise, in stricture of the pylorus. Most of these cases are really non-malignant, and I believe a large percentage of them when once the fissure and contraction of the pylorus is placed at rest, permanent recovery follows—normal function being restored. My first case of Gastro-enterostomy I did with the Murphy button, and the latter apparently never passed; the patient did well, yet died years after from an obscure abscess, probably sub-phrenic. After that I did a number of cases by direct suture, requiring more time. Now I believe the clamp is the better way of operating, always reaching the posterior wall of the stomach if possible, and using the Roosevelt instrument.

Cholecystotomy is an operation for the relief of gall stones and ought not to be delayed, though an occasional error in

diagnosis may present, there is scarcely a case in which drainage fails to bring complete recovery.

Cholecystectomy is an operation to be done only in rare cases. Records show that it yet carries a marked mortality, especially when the work of all operators is taken into consideration. Gall bladder drainage cures many a case of chronic pancreatitis.

During the past decade every form of tumor has been removed from, or through the abdominal cavity, and in doing this work the surgeon must be prepared for many complications and surprises. Up to within a short time the small intestines have claimed the greatest share of our attention. Much of my successful work has been in resection of portions of this part of the alimentary tract. I prefer the end to end anastomosis by the Murphy button; lateral anastomosis by many surgeons is done. One's skill in this line of work is tested in gunshot wounds and rupture from external violence, and the two methods employed in the same case. Each operator is apt to do that operation with which he becomes more familiar and at ease, but he should be prepared to work as conditions may demand. Results seem to demonstrate that end to end anastomosis in some cases causes dilatation, while lateral anastomosis may contract and produce embarrassment. The amount of intestine that it is possible to remove is most impressive. In this work the mesentery should be treated with great care Operations upon the large bowel for stricture, various tumors, malignant and benign, adhesions to other organs, etc., have claimed our attention for many years, and the results have been fairly encouraging, yet here I am of the opinion that it is not wise to attempt too extensive a dissection for removal of large malignant growths; better do a careful anastomosis and make the patient comfortable. Caccectomy has been performed by a number of operators and with great success. And here I much prefer the lateral method in joining the ilium to the ascending colon. It is a well-established fact that when the irritation in the passing of gas and faeces of such a growth is relieved, that the patient may live a long time. In cases of obstruction of either the small or large intestine I am convinced that when the patient is in a serious condition it is better to do an enterostomy, drain the bowel, and later do a more radical operation if called for.

Within a compartively brief period some old terms have been revived, some new ones added, and intestinal troubles are again receiving special attention. Gastroptosis-visceroptosis the various displacements that by use of bismuth paste and X-ray examination are now thoroughly understood, are being benefitted by some form of surgical intervention. Especially is this true in some cases of chronic constipation. I find it is quite impossible to say much on the subject of displacements without proper illustrations. Yet I am sure that with the latter you are more or less acquainted. Few subjects at the present time in surgery are receiving such thorough attention. That many hitherto misunderstood conditions within the abdomen will be successfully diagnosed, there can be but little doubt. That we are in an atmosphere of operative inclination cannot be denied. Mr. Lane, of London, has given us some very valuable papers on the subject and startled us somewhat by the radical operations suggested. A long period of operative work has impressed me that it is not always wisdom to remove normal tissue, and yet there are many of these cases reported in which the patient makes a good recovery apparently. Still these are the cases that in some other form of abdominal operations in the past, have returned in a sad condition of relapsing ill health.

The removal of a portion or all of the large intestine is a most formidable operation to witness. Surely one should give great attention to the evolution of this operation and facts as fast as they accumulate should be heeded. At the present time there are honest advocates of each method, that is, complete removal and lateral anastomosis. My personal experience has been limited, but from a study of the subject, from papers read and discussed in our National Association, I am of the impression that we should give a longer trial to anastomosis. Certain it is that these suffering patients, now that a more positive diagnosis is being reached, are bound to willingly accept treatment, heroic though it may be. Let us be sure and do them no harm.

No more fascinating field in the domain

of intestinal surgery presents than that of anastomosis of the large bowel. It can be done with comparatively little embarrassment. The same skill must be exercised regarding its mesenteric attachment, as is done with the small intestine. Here, as in our operative work on the intestine, we must be prepared for any form of procedure. In my past operations I am convinced that lateral anastomosis is the most pleasing in its results. Our text-books refer to the various methods in a most masterly manner, giving another illustration of the advance being made in our surgical text-books. The December meeting of the Southern Surgical and Gynecological Association had presented some of the best papers and ablest discussions I have listened to the past year.

A REVIEW OF 105 EMERGENCY LAPAROTOMIES *

R. M. Harbin, M.D., Rome

We will refer to an abdominal emergency as an acute condition in which it is never advisable to delay operative treatment, exception being made to the primary stage of appendicular peritonitis.

This report includes a series of consecutive cases covering a three years' experience in a private hospital and some cases treated in the home, the responsibility having been shared in fifteen cases of the former class by Dr. W. P. Harbin.

This clinical review includes the following classes of cases: Early acute appendicitis, 31; late appendicitis, 49; which are sub-divided into—abscess, 29, and perforative peritonitis, 20; extrauterine pregnancy, 6; strangulated hernia, 6; wounds of the abdominal viscera, 4; abscess of liver, 2; gangrene of gall bladder, 1; rupture of gall bladder, 1; twisted ovarian cyst, 1; cearsanean section, 1; typhoid perforation, 1; and intestinal adhesions, 1.

It will be seen that about seventy-seven per cent. of the causes of abdominal emergencies arose from the appendix. The larger clinics place this percentage about seventy. So when we are confronted with the acute abdomen the chances are three to one that the cause lies in the appendix.

* Read at Seventh District of Georgia Medical Society meeting, Rome, Ga., March 14, 1912.

McCosh says that an acute attack of appendicitis is but a terminal stage of a chronic condition. A case in point arose a few days ago in a man 45 years old who gave a history of a slight attack six months ago. Further than that he had suffered no discomfort. The present attack began three days previous to my seeing him, presumably from eating cheese, and when I saw him the attack was subsiding with only one symptom and that was slight tenderness over McBurney's point. Six hours after I had dismissed him, I was telephoned that he was having acute cramps after a light supper, having starved for twenty-four hours. One hour later the abdomen was opened and almost an ounce of light pus was found free in the cavity. After tedious dissection an elongated appendix was found buried in a mass of organic adhesions and a small ruptured abscess was revealed at the tip. His recovery was prompt. These adhesions had evidently been formed without producing any symptoms.

A word as to the symptomatology of appendicitis may be spoken in emphasizing the value of the classical quartet of sequential symptoms: pain, vomiting, fever, slight but constant, and abdominal rigidity.

In great majority of cases the diagnosis is not difficult, even with two or more of the above symptoms, nearly every physician makes a correct diagnosis, but the mistake is frequently made in not stressing the importance and safety of an early operation. A diagnosis of the various pathological stages of appendicitis cannot be made by the symptoms alone and positive knowledge can only be bought with positive helplessness. An advisable operation for appendicitis is practically without danger, while an imperative operation presupposes a very dangerous condition to be dealt with.

Dr. W. J. Mayo says: "Appendicitis is recognized as a surgical malady by practically the entire medical profession of the civilized world, although a large percentage of the cases would recover under non-surgical treatment." (Surg. Gynec. & Obstet., Feb., 1912). Some of the cases in this review were thought to be mild when operation revealed alarming conditions. On the other hand alarming symptoms may proceed from an inflamed ap-

pendix that will undergo resolution under palliative treatment. To attempt to differentiate these cases by delay would invite heavy mortalities. Every acute attack of appendicitis is a sufficient indication for operation for a chronic condition which can only be diagnosed by the acuteness. I believe a careful regulation of diet and hygiene would prevent appendicitis altogether, but the symptoms of the chronic condition are so ill-defined that the attention of even the most intelligent layman is not arrested. Obviously symptoms possess very little value as long as the infection is confined to the appendix, but after the escape of the infection the significance of clinical signs becomes more constant. Owing to collateral intra- intestinal fermentative conditions, symptoms may become exaggerated and even a purge will not eliminate this error soon enough to be of practical value in making an early diagnosis. I have found the advent of symptoms of appendicitis without the history of dietetic imprudence of great value in diagnosis, especially if there has been a history of trauma or fatigue.

In the case of a boy 18 years old, after riding horseback, having gone without supper in the evening, was taken with vomiting and pain at 4 a. m., but seemed slightly ill. The operation at 9 a. m. revealed a gangrenous appendix. A young minister 28 years old was under my observation for twelve months with an inveterate form of dyspepsia without any symptoms of appendicitis. During an acute attack of vomiting, etc., the diagnosis was slowly arrived at and at operation the appendix contained a great amount of coagulated pus under tension, which evidently indicated a diseased state of long standing. His dyspepsia promptly ceased and the general health greatly improved.

A young married woman gave a history of having had a dozen or more attacks over a period of five years. The present attack was alarming, but on opening the abdomen a very much elongated appendix was found buried in adresions passing up and behind, completely encircling the caput coli. The attack of colic was evidently caused by this constricting band, which made a mechanical cause of symptoms. Without operation, these attacks may have continued indefinitely before producing peritonitis.

It was observed in many cases that the gross pathological appearances were out of proportion to the severity of symptoms produced, but in cases where the diseased conditions were not so well marked the subsequent symptoms of improvement were characteristic and proved a correct diagnosis, and the wisdom of operation. In nearly all of the cases there was rapid gain of flesh after convalescence showing relief from the ill defined chronic symptoms.

In Georgia there is an impression among the laity that one only lives seven years after the appendix is removed, and I account for that by the fact that the late Governor Atkinson, whose case of recovery from operation about eighteen years ago excited so much public attention, lived about seven years afterward.

The opinion is held by a few English surgeons that a healthy appendix probably has some function to perform, but a diseased appendix is universally regarded as a menace.

If the accepted form of palliative treatment were universally practiced, much fewer of the cases would be driven to operative treatment. If operation is refused the patient and family should be duly warned of the risks so that the medical attendant may not be held responsible for any unpleasant results that may follow. Under such circumstances the patient should be given the treatment of peritonitis; washing out the stomach, starving and adopting the Fowler position; and if there be actual signs of peritonitis, rectal infusions of normal saline solution should be resorted to. The ordinary thermos bottle can be readily converted into a suitable apparatus by securing a perforated rubber cork and two glass tubes. This treatment properly applied will secure the absorption of six to ten pints in twenty-four hours.

The conditions that warrant the use of purgatives are never serious and are self limited and any acute indigestion that has no organic base will slowly disappear by starving, thus making purgatives unnecessary. So we should not be concerned about functional disturbances, but should give serious search for collateral pathological lesions.

In a recent investigation in one of the largest European clinics, it was found that

death was almost never produced by acute indigestion per se, but there was usually some associated organic lesions revealed at autopsy.

Purgatives and increased peristalsis augment bacterial activity, a fact that can be observed in a case of typhoid fever. Swallowing fluids excites a wave of peristalsis in the lowest ileum and only ten per cent. of fluids is absorbed before reaching the cecum. Feces only becomes dry upon reaching the colon. Bacteria are more numerous and virulent in the colon, and Cushing has shown that starvation will sterilize all of the intestine that can be made to empty itself. I heard Ochsner make the statement that he had never seen an appendix perforate in a case that had been starved, and Moyniham says a purgative spells perforation, and that peritonitis is nearly always "therapeutic". He advises an immediate operation if upon learning that a purgative has been given. He also says that after perforation has occurred the pulse is always under ninety for the first twelve hours. He further says that when the lumen of the appendix is obstructed a purgative will either remove it or cause rupture, in either instance giving temporary relief. (British Med. Journal, April 1, 1911.)

Morphine should always be withheld until the diagnosis is established and if operation is refused, it has a place in the treatment of appendicitis by restraining peristalsis. I would urge extreme care in palpating the abdomen, as one of my patients seemed to have sustained a perforation from manipulations just before operating.

The adherent mass to the parietes was observed to have disappeared before the abdomen was opened. There was a perforation at the tip of the appendix which was temporarily sealed by a mass of adhesions.

Ochsner stresses the danger where several consultants are called, who in turn attempt to palpate the appendix.

In view of the fact that seventy-five per cent. of cases will recover under palliative treatment, the routine of early operation in every case without hospital facilities is not advisable, for the lack of a proper equipment would constitute an element of danger itself; for sometimes the apparently simple cases prove to be the most complicated ones to work out. Of the cases that recover seventy-five per cent. will have recurrences, and ordinarily two per cent. will perforate with a mortality of seventy-five per cent. if not operated.

The leucocyte count has been made an important aid in prognosis, although I have no data from these cases to report. In severe infections, poorly resisted, there is a low count, and in mild infections well borne there is a high count. The total count is an index of resistance, while the relative count indicates the severity of infection.

As to the operative technique, the McBurney incision by the inter-muscular method was the rule in these cases, having previously sterilized the skin with iodine. It is well to bear in mind that the outer border of the rectus muscle may extend almost to the anterior superior spine in laborers. The same technique was applied to abscess cases, and ether by the open method was the anesthetic used. In one case, after a search of forty-five minutes, the appendix was found on the left side, but the symptoms were typical.

If the appendix is not too much diseased the stump should be buried, but in drainage cases only plain catgut sutures should be used. Chromic catgut will keep up a sinus in infected cases. The importance of crushing the tissues before tying and including the ligated mesentery in the purse string suture may be emphasized. As individual experience increases the tendency to drain doubtful cases increases. I have used fine silver wire wicks to an advantage for drainage. ("Fine Silver Wire as Drainage Material," Harbin, Journal A. M. A., p. 120, July 15, 1911). Perhaps every surgeon feels that he has a case to remember that would be living had he drained the wound. In infected cases the layer sutures should be applied up to the drainage tube. As a matter of experience we have learned the necessity of obliterating dead spaces by passing one or more silk-worm gut sutures through and through about the middle of the incision. The skin incision was usually closed with a loop suture of loose hair loosely applied. The edges of skin should never be air-tight, but merely approximated so as to facilitate capillary drainage through the length of the incision.

After operation we have resorted to the

routine use of the stomach tube to remove either mucus or bile before the patient comes out from the anesthetic. Greater comfort and less vomiting follows this procedure and morphine was rarely used. While the first night's suffering may be somewhat greater, the subsequent comfort more than compensates. There is less objection to the use of morphine in drainage cases. Aspirin may be used with advantage. Under ordinary conditions rectal infusions of salt water were not used.

Of the thirty-one early operations thus treated there was no fatality, and in this series the oldest case was 61, youngest 10, and average, 24 years old. The greatest duration of attack before operation was 80, shortest 6, and average, 26 hours. So far as is known there has been no development of hernia in these cases.

There were forty-nine cases classed as late, of which twenty-nine were abscessed and twenty perforated.

In twenty-nine cases of abscess there was one death from continued sepsis. The routine was simple incision avoiding the cutting of any muscular fibers, and no active search was made for the appendix and details of the after treatment are important. (Twenty-two Cases of Abscess Appendix—Harbin, Med. Record, July 9, 1909.) The youngest was 4, the oldest 65, and average, 25 years old. Eight cases gave a history of trauna, ten gave the cause as indigestion, and eleven were negative. The earliest date of operation was 3 and latest 19, an daverage 79 days of the attack. Only one case required reoperation, which was done under local anesthesia.

Of the twenty perforative cases, six were treated in hospital with no mortality, the earliest perforating in 14 hours from the onset, latest 48, and average 35 hours. While perforation is a secondary process, it may occur very early, as already pointed out. Two fatal late cases resulted from prolonged sepsis. The remaining twelve cases were seen in the remoter districts and operated as a last resort under unfavorable environment with a heavy mortality of ten deaths. Some of these could have been saved by hospital treatment. I have ceased to advise operation for this class of cases under such circumstances.

There is a primary stage of perforative peritonitis that the wise surgeon will treat expectantly and reserve operation for a later period, after adopting the Ochsner treatment.

Extra-uterine Pregnancy.—Perhaps ectopic pregnancy presents one of the most acute emergencies that the surgeon is ever called upon to treat and a tardy diagnosis frequently brings a fatal result. A few years ago a controversy was waged by certain authorities as to the advisability of immediate operation, but that has become fairly well settled in establishing the wisdom of prompt radical treatment. A woman that has bled to a moribund condition will usually die after any sort of treatment and all surgeons know from observation that a patient in any condition better than moribund will stand a quick abdominal operation. In one case seen by me in a small hut in the country at night, the non-operative plan was advised as the hemorrhage seemed temporarily checked, though she was plainly exsanguinated. Her recovery was tedious but good. If the previous history has been clear and if the patient has been under observation, the diagnosis usually offers no difficulty. A young, stout nullipara whom I had curetted six months previous, consulted me in reference to a bloody discharge from the uterus lasting intermittently for six weeks along with cramp-like pains. Being suspicious, I urged her to keep me informed as to her condition. One week later she started to my office, but finally decided to call me. A vaginal examination revealed an ill defined boggy mass in the left pelvis. Two hours later, at the hospital, the abdomen was opened and a ruptured tubal pregnancy was found. My insistence in keeping up with the case enabled me to make a prompt diagnosis.

The usual symptoms are: Blood is discharged two or three weeks after missing a period along with abdominal pains, followed by a pallor, faintness, collapse, air hunger, sighing restlessness, etc.

There is usually a sensation of something giving way. There is a doughiness, not rigidity, over the abdomen and in the vaginal vault. Sometimes a rupture is not sufficiently grave but what it becomes promptly encapsulated by the layers of the broad ligament. One of these cases gave a history of three or four such at-

tacks, covering a period of two months, and at operation some of the contents had undergone degeneration, at the same time having fresh extravasated blood. Another case, 34 years old, the mother of three children, the youngest being 3 years, was given an alternate diagnosis of extra-uterine pregnancy and pelvic abscess. Being in a small village a vaginal section was made and after cleaning out the clots and packing the sac, the woman soon became pallid and pulseless at the wrist. It was soon evident that the sac had been ruptured and the woman was having an alarming hemorrhage within the abdomen. With poor light in the evening, no facilities, and one assistant, the abdomen was opened, under ether anesthesia, and the blood cleaned out, but owing to circumstances no attempt was made to bring up the stumps to be ligated. Under the guidance of touch two clamps were applied and allowed to remain thirty-six hours and then the wound was closed with provisional sutures and the healing was without incident. She recovered, but gave me the severest fright I have ever experienced. From this and other observations I do not advise vaginal section for extra-uterine pregnancy.

In addition to the cases mentioned, one was ruptured and recovered, and another had a late diagnosis and operation and death. The latter was a young unmarried woman of 18 years and was moribund when I first saw her. It was thought advisable to remove her to the hospital, where operation revealed an interstitial pregnancy—a funnel-shaped opening extending to the right cornuum of the uterus. The amniotic sac, containing a two-months' fetus, was recovered from the debris and she died shortly after the operation. The sixth case was a nulliparous woman who had hemorrhages and consented only to a late operation in the home, death following in two days.

Strangulated Hernia.—While herniotomy is not ordinarily classed as an abdominal operation, it has to deal with abdominal viscera and strangulated hernia furnishes a very acute emergency in which various radical measures have to be considered. In every acute abdominal trouble the hernial rings should be examined and should this prove negative all doubt may not be removed.

A case in point was a man 55 years old, who had had vomiting for ten days or more. There was an undescended testicle on the right side and he had worn a truss over it for years and his general health was much reduced. An examination of the hernial opening revealed no positive knowledge, but a tender mass above corresponding to the location of the appendix was easily made out and, because of frequent vomiting, the probability of an appendicular abscess was believed. At operation the omentum and a knuckle of intestine were found to be firmly adherent to the hernial sac, so that there was no impulse from coughing, and the mass proved to be an acutely inflamed and incarcerated testicle lying within the abdomen under the peritoneum. The continued trauma from the truss brought about an aggravated state of affairs. Castration and the Bassini operation were performed and the cure was satisfactory.

The second case was a woman 50 years old with a strangulated femoral henria on the right side, of twenty-four hours' duration. The gut proved to be gangrenuous and required an end to end anastomosis resecting ten inches of the intestine.

The third case was a maiden woman, 70 years old, who also had a strangulated femoral hernia. The hernia was so large and her general condition so bad that the radical operation could not be completed after cutting the constriction. She recovered her usual health though the heria persisted.

The fourth case was strangulated femoral hernia in a woman 45 years old, strangulation having lasted twelve hours. Herniotomy was performed under local anesthesia and the gut was dark reddish and almost black over half of the constriction. By devoting two hours to fomentations of normal saline solution there became signs of re-establishment of circulation in the gut. The radical operation was completed and a normal convalescence ensued.

The fifth case of a man 60 years old was inguinal in type strangulation having lasted twelve hours. The hernial protrusion on the right side was as large as a cocoanut and the operation was completed under local anesthesia.

The sixth case was almost duplicate of the preceding, except that the strangulation had lasted eight hours. This man was 50 years old, and right herniotomy was done under local anesthesia.

There are several reasons why strangulated hernia should be operated with local anesthesia by the infiltration method. In the first place the patient is already more or less narcotised by the use of opium in the attempts at reduction, and for that reason there is less fright. Again there is great danger in general anesthesia from the patient becoming drowned in his own vomit. If the operator will exercise tact, patience, and a cheerful tone toward the patient little suffering will be experienced and the strain of subsequent vomiting from the general anesthetic will be avoided. There is also great advantages in having the voluntary efforts of the patient in bearing down on the protrusion at certain times to identify the sac. Again when the viability of the gut is in question, it becomes of material assistance to have the patient co-operate while teasing a return of circulation in the gut after the construction has been removed.

Since adopting the rule of making local anesthesia the one of choice we have found that wounds heal promptly and convalescence is decidedly more comfortable. The tissues are blocked with cocaine 1 to 500-1,000 of normal saline solution, and we have not seen fit to use adrenalin. The painful areas to be guarded against in inguinal herniotomy are skin, ileo-hypogastric and ileo-inguinal nerves and peritoneum. Hemorrhage should be religiously checked, and the operative field should be screened.

Intra-abdominal Wounds.—When called to a case of suspected wounds of the abdominal viscera it is well to review the circumstances of the injury in order to determine the direction and nature of the penetration. Failure to do this brought difficulty in a search for the origin of a hemorrhage in a man 40 years old, who was stabbed in the right hypochondrium and left hypogastrium, the omentum and intestines protruding in each wound. He was profoundly shocked from loss of blood after eight hours, with a pulse of 150. Through an enlargement of the wounds the blood was cleared out and after a prolonged search the source of the hemorrhage could not be ascertained. After a tedious search, however, it was found to proceed from an incised wound in the cortex of the right kidney. The hemorrhage now not being active, a gauze pack drain was applied and his recovery was satisfactory. It was then ascertained that he was pushed back over the corner of a barber's chair and stabbed from below upwards, striking the inner and under surface of the costal cartilages, and in this position the kidney was pushed forward as in palpation.

In penetrating abdominal wounds symptoms may be almost entirely lacking in cases where small perforations have been sustained and after reviewing the circumstances it is wiser to operate in cases of doubt. It is safe to assume that the intestines have been perforated by any gunshot wound entering below the level of the navel and above Poupart's ligament.

A man 30 years old was brought to the hospital four hours after receiving a pistol shot wound just above the left Poupart's ligament, ranging backward and inwards. There was considerable shock and the peritoneum was markedly velvetey. After mopping out a quantity of intestinal contents five perforations were found in the lower intestine and were closed with Lembert's sutures. In one of the perforations the ball passed diagonally near the periphery of the gut so that it was perplexing to repair the injury without reducing the lumen more than a third, but an S-shaped line of sutures obviated this difficulty. After operation it became evident that there was considerable blood in the bladder, but a spontaneous closure seemed to have been effected and his recovery was prompt. It may be remarked that he had eaten heavily of cheese, peanuts, etc., just before the injury, but no ill effects seemed to have followed.

Another man, 60 years old, was shot with a pistol from behind, the ball entering the upper left lumbar region ranging forwards and inwards. After riding eight miles in a buggy, remaining alone at night, he was brought to the hospital twenty hours after the receipt of the injury suffering great pain and with a pulse of 120. The upper abdomen was opened and a quantity of blood removed. The hemorrhage was found to proceed from a

wound in the greater omentum. After his primary recovery an abscess developed in the left upper abdominal wall near the location of the ball as shown by the X-ray. But when the mass was incised the pus had the characteristic odor of the colon bacillus and the ball was aseptic. A small fecal fistula soon healed. There was evidently a slight abrasion or vent in the intestinal coats that escaped detection.

It is usually a fruitless search to attempt to recover the ball.

A boy 9 years old, while walking a fence, fell across a picket, striking the left hypochondrium without breaking the skin. There was profound shock, vomiting of blood. When the upper abdomen was opened four hours later there was found a vent two and one-half inches long over the greater curvature of the stomach, which was closed with two tiers of Lembert sutures. He died six hours later.

The search for perforations of the abdominal viscera should be thorough and any over-sight of such usually means the loss of the patient.

In laparotomies for injuries that require drainage the after treatment should be that of peritonitis.

Abscess of Liver.—There were two cases diagnosed as abscess of the liver, although nothing radical was accomplished by operation, as the abscess could not be located, each operation being one of emergency. One young man, 28 years, who had been in Cuba several years, was markedly jaundiced with hectic fevers. Nothing abnormal could be discerned about the biliary tracts.

The wound was closed and healed in two weeks, when a rupture occurred and death followed.

The other case of a woman 50 years old was almost moribund when I saw her, and an exploratory operation accomplished nothing, the patient dying in two days. She had been treated for gall stones, but none was found.

Gangrene of the Gall Bladder.—This patient, a woman of 50 years, a native of Florida, had been treated for gall stones. Operation revealed a distended gall bladder containing inkish bile and disintegrated gall stones. The gall bladder was dark bluish and the cystic duct was impacted. She lived three days.

Rupture of Gall Bladder.—The patient, a woman 35 years old, had been six weeks convalescing from typhoid and the attending physician had noticed a gradual enlargement in the region of the gall bladder. The sudden disappearance of this mass was followed by symptoms of collapse and in thirty-six hours I saw her with all the symptoms of peritonitis, pulse 160 and temperature 101° F. On opening the upper right abdomen a quantity of bile and pus was mopped away and a tamponade drain was applied and she recovered. Perforation of the biliary tracts is a rare accident and McWilliams reports twenty-nine cases, or nine per cent. in 3,180 operation. (Annals of Surgery, February, 1912.)

Twisted Ovarian Cyst.—This woman was 48 years of age and had been treated for typhoid fever for two weeks before being brought to the hospital. When the abdomen was opened a quantity of reddish coffee-like fluid escaped and the walls of the sac were gangrenous. Being profoundly septic she died in eight hours.

Caesarean Section.—Mrs. C., age 38 years, the mother of four children, had an impassable carcinoma of the cervix, which blocked the genital outlet. After curetting and applying Paquelin cautery to the mass, the Porro operation was performed. The convalescence was uninterrupted, but the infant died on the third day.

Typhoid Perforation.—The one case was a boy 15 years old, who had a hemorrhage before going to bed a week before. The afternoon before operation he drank some buttermilk, after which cramps and vomiting set up. The next day I saw him at 1 p. m. with symptoms of peritonitis, pulse 140 and temperature 101° and a pinched expression. After removing him to the hospital the abdomen was opened and a quantity of fecal matter, pus and gas was mopped away. A perforation the size of a goose-quill was found six inches from ileo-cecal valve. He recovered primarily from peritonitis, but a typhoid re-infection occurred, followed by hypostatic pneumonia and death two weeks later. One notable feature was observed, that a fibinous deposit seemed to have sealed the perforation and the attack of colic evi-

dently broke down these protective adhesions. This raises the question, may not some cases of perforation heal spontaneously unmolested by colicky disturbances? In this case the process of Nature seemed to have been aborted.

Intestinal Adhesions has been the subject of much study and there are many unsettled problems concerning this disorder. Six weeks before, this young woman, 25 years old, had been operated on for acute appendicitis, from which she recovered without incident. After four weeks a mass could be felt in the region of the appendix, which gradually enlarged, producing symptoms of obstruction. Re-operation revealed extensive adhesions which were tediously separated and her recovery, now six months, seems to be complete.

Infection, trauma in operation and intra-intestional conditions have been assumed to cause peri-colitis, but in this case no symptoms of either of these causes could be discerned during the first operation.

The practical conclusions from this study may be summarized as follows:

1. Seventy-seven of the acute abdominal troubles proceeded from the appendix.
2. An acute attack of appendicitis is but a terminal affection of a chronic state of disease.
3. The usual mistake is not in diagnosis, but in failure to stress the importance and safety of early operation.
4. Symptoms cannot diagnosticate the pathological stages of appendicitis.
5. While an advisable operation is practically without danger, an imperative operation pre-supposes a serious condition to be dealt with and may fail to cure the disease.
6. Proper diet and hygiene would frequently prevent appendicitis were the symptoms sufficiently marked to arrest attention.
7. In the absence of dietetic imprudences, fatigue and trauma favor an acute attack.
8. Nearly all the cases showed improvement in health and gained in weight after the operation.
9. The accepted form of palliative treatment, stomach wash, starving, and Fowler position would abort many cases that are driven to operation.
10. Purgatives will relieve minor collateral disturbances, but at the same time they aggravate the diseased focus.
11. Purgatives increase peristalsis and augment bacterial activity and only ten per cent. of the fluids is absorbed before reaching the colon.
12. Purgatives either remove the obstruction in the lumen of the appendix or else causes rupture.
13. Starvation will sterilize any portion of the intestines that can be made to empty itself.
14. Palpation at times causes perforation.
15. Of those that recover without surgical treatment, seventy-five per cent. will have recurrence, and ordinarily two per cent. will perforate with a mortality of seventy-five per cent. when not treated surgically.
16. The inter-muscular incision should be used in all cases.
17. Only absorbable sutures of plain catgut should be used in wounds that require drainage, and all tissues to be ligated should be crushed before tying.
18. Fine silver wire made into wicks can be used to an advantage as a drainage material.
19. Obliterate all dead spaces by a few silk-worm gut sutures and an air-tight skin suture will give trouble.
20. The routine use of the stomach tube just before the patient comes out of the anesthetic lessens vomiting and increases comfort. Avoid morphine.
21. Late operations under unfavorable environments are not to be advised.
22. Avoid operations in the primary stages of peritonitis and adopt the Ochsner rationale.
23. The value of Murphy's dictum, "Get in quickly and get out quicker," is emphasized in the treatment of peritonitis and mop instead of irrigating the peritoneum.
24. The Fowler position restrains toxic absorption in the diaphragmetic peritoneum and any fluids by the mouth defeat the absorption of rectal infusions: Ventral decubitus was adopted in some of these cases. (Harbin, Med. Rec., 1905, lvii, 617.)
25. Starvation and stomach douche are the best methods for preventing toxic intestinal paresis, although a peristaltic

harmone is now being recommended. (Aaron, Journal A. M. A., February 10, 1912.)

26. Prompt diagnosis and operation is the only safe course in the treatment of extra-uterine pregnancy.

27. Vaginal section is an unreliable procedure in the treatment of this emergency.

28. Local anesthesia should be the one of choice in strangulated hernia and possesses many advantages.

29. Thoroughness is the watchword in treatment of penetrating wounds of the abdomen and operate in cases of doubt for the symptoms at first are nil.

30. It is important to review the circumstances of the injury as a guide to the lesion.

31. Rupture of the gall bladder is a rare accident and the case cited points to the probability of typhoid infection in cholecystitis.

32. The case of typhoid perforation indicated the probability that many perforations heal spontaneously.

THE SIGNIFICANCE OF THE LEUCOCYTE COUNT IN APPENDICITIS AND ALLIED ACUTE SURGICAL CONDITIONS*

C. H. Richardson, Jr., M.D., Macon

In presenting the subject upon which I have been asked to write this paper, I must admit that I have few original conclusions to offer, as it has been so thoroughly covered in numerous recent articles in the different journals. However, I shall attempt to present a rehash of these ideas, coupled with some personal experience in dealing with the present attitude toward the laboratory finding in appendicitis and allied acute surgical conditions.

Acute appendicitis, as we frequently see it, is such a clear-cut picture, with its concise and orderly sequence of symptoms, that it almost seems superfluous to waste time upon a blood count, which when done, may only serve to confuse us. But there are cases which are atypical, which do not follow this usual sequence of symptoms, frequently in which the severity of the infection is out of all proportion to the clinical symptoms, and conditions which may simulate in the symptom-complex, an appendix infection, in the absence of any infection at all; it is in these cases that the laboratory findings are of paramount importance, and often help us out of a dilemma, where an exploratory laparotomy seems the only solution.

In order to draw conclusion in pathological conditions we must take an average normal as a working basis, both of the total number of L. and the relative number of PL., which occur in normal blood, and also take into account those Las. which have a physiological basis., and are recognized as such.

If we accept the consensus of opinion of the majority of authors, we would call a normal L. count from five to ten thousand white cells per C. M., and of these white cells a P. per centage from sixty to seventy-five per cent.

Hence we have two factors to deal with in studying an infection from the standpoint of the blood count: First, the total L. count; second, the relative per centage of P. L., which we call the differential count. At first we were inclined to combine these two factors and draw conclusions which we re-found to be erroneous. In our laboratory diagnosis a high white count, with a correspondingly high relative P. per cent. meant an infection depending in severity on the height of the count, and that was as far as we attempted to go; but we often found our two factors decidedly at variance, often a low total count with a relatively extremely ihgh P. count, and this led to confusion and error, and so we came to realize that while there was an inter-dependence between these two factors, yet each was a separate entity within itself, with its own explanation of the problem confronting us to offer, and it is upon this basis that the more recent idea of the blood count in acute appendicitis and other surgical conditions has been established.

Hence, it becomes necessary to define these two factors, as they are separately related to infection. So we take first, the total L. as an index of the patient's resistance to the infection; second, the differential count aas an index of the severity of the infection. With these two ideas es-

* Read before Bibb County Medical Society, March 19, 1912.

tablished we are able to work out some very nice interpretations in the diagnosis, severity and prognosis of infectious conditions, and we find our blood count a valuable aid, instead of a means of confusion, but an aid which requires as much discriminating interpretation and judgment as that of the clinical diagnosis.

We know that the greatest defense that the organism possesses against infection is its own resistance, and aht the response of the tissues to bacterial invasion and injury manifests itself in the phenomenon of inflammation, which consists largely of a deposit at the site of infection of a plastic serum with a gathering of large numbers of L. A constant presence at the site of infection of these cells showed that they were in some way one of the organisms main defenses against infection. Then in the presence of a general infection, as well as a local one, we found these cells very much increased in number throughout the entire blood stream, and we found the total number in proportion to the reaction of the organism against the infection.

With this increase in the total number of L. we found another factor present, that with this increase there was also a relative increase in a certain type of L. and that the P. type, and also that the relative increase in this type was in proportion to the severity of the infection, and finally, in the presence of a separative process, that the differential count always showed a relatively high P. per centage.

Hence it was found that this P. per centage was the one most actively identified with the war with infection, and that its relative increase is an index of the severity of infection.

Having defined our two factors, the one an index of resistance, the other an index of the severity of infection, we are prepared to correlate and study the two.

The following figures are taken from Hewitt, Annals of Surgery, December, 1911, and represent some interesting counts in appendicitis. In thirteen catarrhal cases he found an average total count of 17,907, and an average P. count of 83 per cent.

In nine Sup. Cases, an average total count of 18,057, and an average P. count of 89 8-10 per cent.

In six cases of gangrenous and perforative of appendicitis an average total count of 19,517, and average P. count of 89 16-100 per cent.

While there is practically no difference in the total counts in these figures, the differential counts show a marked difference, the count being much higher, according to the severity of the infection.

Suppose we find a case with the clinical manifestations of acute appendicitis, with a blood count of 20,000 white cells, with a P. count ranging from 75 to 80 per cent.; if the clinical symptoms are not increasing, this is the case in which we can afford to wait, but if, at the end of twelve to twenty-ofur hours, another count is made, and we find that the differential count is increasing, irrespective of the total count, it is an evidence that the process is extending, and usually calls for immediate operative interference, and if we find the P. count increasing with the total count falling, it is an evidence that the infection is getting the better of the patient's resistance and immediate operation is imperative.

On December 23 last I was called to see a girl of 17, who gave a history of abdominal pain, nausea and vomiting for the past twelve hours. When I saw her she was distinctly tender over her appendix, complaining of pain in this region, but her nausea and vomiting had ceased. Her clinical symptoms were improving. I did a blood count and found a white count of thirty thousand and a P. count of 91 per cent.—immediate operation was decided upon, and a gangrenous and sup. appendix just on the point of rupture was found.

In the matter of differential diagnosis, we again find our blood count of value in dealing with surgical conditions within the abdomen. We find that pelvic conditions give us the lowest differential count, and as we proceed upward in the abdomen the counts are higher. In substantiation of this I again quote Hewitt's figures:

In twelve cases of pyosalpinx he finds an average total count of 15,133, with an average P. count of 83 per cent.

In thirteen cases of P. Sepis, an average total count of 16,000, with an average P. count of 81 5-10 per cent.

In eighteen cases of P. Abscess, an average total count of 20,000, with an average P. count of 83 8-10 per cent.

Recalling our figures in sup. conditions

of the appendix, it is seen that they give a higher count. Going still higher he finds that in four cases of cholecystitis an average total count of 20,055, with an average P. count of 92 4-10 per cent.

These comparisons may be explained by high resistance manifested by the pelvic peritoneum to infection, and the lower resistance manifested by the upper quadrants; this also explains the rationale of the sitting posture adopted for post-operative sup. abdominal conditions.

Hence we find in the matter of diagnosis and differential diagnosis that our differential count is our more valuable aid.

In the matter of prognosis, we again find some interesting disclosures, furnished by our blood picture, and here our total L. count comes to the front. Again using this as an index to the patient's resistance we find that severe infections in which we find a low total white count almost invariably offer a poor prognosis. Take, for instance, a case of ruptured appendix with general peritonitis. We open the abdomen and drain, but we know that it is practically impossible to drain the peritonere cavity—our operative interference helps, but it is only an aid—it is the patient's own resistance that tells the tale in a large measure, and when we find in these cases a low L. count, they are almost invariably fatal. Again, if we make a count on these cases before operation and find a high total count with the corresponding high P. count, and then twenty-four post-operative, take another, and find the total count falling, the prognosis is poor and the converse is also true.

In the matter of drainage, our blood count will often show us how well it is accomplishing its purpose. Take an appendical abscess, for instance, which we open and drain. In twenty-four hours, if our drainage is accomplishing its purpose, we find the P. count falling. On the contrary, if we find it stationary, it is good evidence that our drainage is not accomplishing its purpose, and if rising, it should make us suspect that the process is extending.

Hence we summarize as follows:

First, the blood count is a valuable aid to diagnosis, differential diagnosis, and prognosis in acute surgical conditions, taken into count with the clinical symptoms.

Second, it is composed of two factors, a total L. and a relative P. per centage, the one an index of resistance, the other of severity of infection.

Third. Of these two, the differential count is probably the more important.

Fourth. The differential count is more valuable in diagnosis; the total count is prognosis.

Fifth. A negative count is sometimes of value in diagnosis.

Sixth. The blood picture requires as careful interpretation as the clinical one to be of any value.

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SOME POINTS NEEDING EMPHASIS IN THE TREATMENT OF TUBERCULOSIS *

J. H. Hammond, M.D., Lafayette

Apparently the prevalence of tuberculosis has not been affected as much in recent years as the practical character of the discoveries made in connection with this disease would lead us to expect. These additions to our knowledge, consisting in part in the discovery of the specific cause, and the development of a technique for finding the same, by means of which any practitioner may usually prove his diagnosis, and therefore institute treatment in an early stage; the demonstration of its limited viability outside of the body and the influences which prolong or shorten its life in this state; the proof that, for all practical purposes, the germ is cast off from the sick only through the sputa, and the satisfactory revelation of the media or agencies by which it becomes transferred from the sick to the well, are of such a character as to render it easy to conceive how a thorough application of this knowl-

* Read at meeting of Seventh District Medical Society, Carlerville, October 11, 1911.

edge would result, after a few years, in the eradication of the disease. If applied with only reasonable assiduity, there could not fail to follow an enormous reduction of the number of cases occurring. Moreover, the treatment of the tuberculous has been so improved of late years that it is generally conceded that many more cases may be cured now than formerly.

If, then, the disease continues to prevail with anything like its former frequency, which is in accordance with the impression in many communities, or, rather, if the prevalence of the disease is not very markedly decreased, it is hardly possible to avoid charging the practitioner with inefficiency in the application of the principles that have been established.

This reflection on the practitioner, which compares so unfavorably with the distinguished honor accorded the laboratory worker, is not materially modified by the fact that the discoveries here alluded to are applicable, not so much to medication, for which the physician may be considered more immediately responsible, as to measures, the carrying out of which depends more on the faithfulness of the patient himself. It is not reasonable to expect a patient to undertake a regime, more or less inconvenient to all, and for most persons involving radical and irksome change of habits, and to persevere in its use a sufficient length of time to experience beneficial results in tuberculosis, without first having been convinced that the plan advised constitutes the very best treatment that can be prescribed, and affords a fair hope of complete recovery, or, falling short of this, the certainty of an extension of life. Herein is where, it appears, the field worker, at least in the country, is most at fault. He does not sufficiently enlighten his patients and the public as to give them a proper conception of the nature and extreme value of his plan of treatment, thereby failing to secure their co-operation and faithful perseverance.

That people appreciate and profit by this kind of knowledge may be learned by conversing with one who has received treatment in a good institution. Such a one usually has af air knowledge of the disease, is not very solicitous about medicines, faithfully carries out hygienic measures, and, though having been subjected to much expense without, it may be, receiving a cure, yet he seems to feel repaid by the amount of information gained, which he is capable of still further applying to advantage in his own case.

To attempt, then, to suggest some of the lines along which patients and the public are in need of better education concerning tuberculosis, however incomplete or imperfect otherwise, ought not to be without some attendant benefit, provided it should provoke discussion.

The first duty of the physician after he has made a diagnosis of tuberculosis is to communicate this knowledge to his patient. To mention this duty may seem superfluous, so obvious is it at the present day when we possess such a quantity of useful information which can be used effectively only when the patient and those around are fully aware of the condition; yet it may be that some of us have not fully recovered from the habit of tardily disclosing the diagnosis, acquired at a time when to do so, no preventive or curative means having been satisfactorily established, could produce only depression, both to the patient and to those who felt that they were in the line of heredity.

This is the time when every expression should be made to beam with optimism. That good authorities claim that seventy-five per cent. of people are affected to the extent of leaving traces of the disease discoverable in their bodies after death, that such statistics were shown before improved methods of treatment had acquired full potency, that the great majority undoubtedly have recovered without any special treatment, and that a much larger proportion of recoveries can be looked for under the influence of modern treatment, should all be stated in a tone to sustain and encourage the spirit of the patient.

This likewise seems a suitable time for teaching the specific character of the disease by helping one to an insight into the infectious properties of the germ sufficiently to afford a clear understanding of the rules for prophyloxis, all of which—not forgetting the fly—should be elaborated, explained and thoroughly impressed. This will serve to relieve those who are in fear from heredity, and at the same time, stress the danger from association where carelessness is allowed.

One of the most difficult things to do, and at the same time one of the most val-

uable when accomplished, is to inspire a patient with confidence in a plan of treatment which is not composed largely of drugs. By a proper adaptation of language, cannot a picture be created on the brain of almost any patient, of the contest that is going on within his body? Teach him that as soon as the germ of tuberculosis, or any other disease-producing germ, as for that, gets within the body, it is immediately met by an opposing force, such as every living body always contains for its defense, and a real battle ensues which never ceases till one or the other side is vanquished, that is until death results or the body is restored to health. Granting to him then, as we may do, that, practically speaking, no medicinal agent is known by the introduction of which within the body the disease germs can be weakened without, at the same time, affecting unfavorably the friendly forces, the best possible basis will be afforded him of understanding that his chief reliance consists in maintaining and increasing, if possible, the general health and vigor of his body, which must furnish its own defense, by the use of the most suitable diet and the employment of all available hygienic means. He will comprehend, and admit as from no other reason, the importance of maintaining his bodily resistance and of conserving his energy, all of which, so far as possible, should be employed in the elimination of disease, by the avoidance of intemperance, exposure, hardsip, and every other excess involving loss of tone or waste of strength.

Let the varying rate of respiration in a tightly closed room and in the open air be pointed out and the difference, say five expansions per minute, be computed for twenty-four hours, making seven thousand in that length of time. Now, lead the patient mentally to see his tender inflamed lungs, which should be favored with comparative rest, forced by the exclusion of oxygen from them, to expand and contract many thousands of times every day more than is necessary, calling attention at the same time to the vast amount of energy thus squandered, and a more salutary effect will be produced on his mind relative to this important function, than he can be made to feel by any amount of lecturing on the value of fresh air in tuberculosis, from any other point of view.

The institution for the treatment of tuberculosis deserves more careful study by the general practitioner than it seems now to be receiving. In almost every community the impression prevails, or is being created, that the institution possesses something peculiar and essential, impossible to be found in the home. Under the influence of this delusion it is not very uncommon to meet with families of very limited resources who are sacrificing every comfort that they may be enabled to pay the expenses of distant treatment for one of their members, fully convinced that the home doctor has been denied some gift and that a distant climate surely has more healing in its sunshine and breezes. Any good institution can enforce discipline better than it can usually be done at home. From the best institutions, presided over by qualified men whose main purpose is the curing of disease, we have a right to look for improvement of our knowledge of the disease. For these two reasons every physician, loyal both to his patient and his profession, may feel bound to recommend the institution to the few cases with which he meets where the pecuniary conditions are ample and the home ties can be discontinued without inconvenience. The home ought to be on a par with the institution in its ability to furnish suitable food, facilities for obtaining fresh air and other hygienic measures, and in the medical service which it can furnish; superior in maintaining the home association, freedom from the presence of other cases, and especially in the much less cost at which these advantages may be had. When we consider the numerous advantages possessed by the home, it is hard to believe that the institution will ever compare favorably in results with well directed home treatment. The duty of the physician in connection with this subject is obvious and important.

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SIXTY-THIRD ANNUAL MEETING, AUGUSTA, APRIL 17-19, 1912

SOME SURGICAL DIFFICULTIES ENCOUNTERED BY A COUNTRY PRACTITIONER

Dallas Williams, M.D., Folkston

The intent of this paper is not to edify, but rather to make a plea for the better education of the laity along lines of sanitation and hygiene, and at the same time to recall the fact that even in this day of advanced scientific research the old-time and old-fashioned customs and superstitions are with us, and that at least a few of us meet with the same difficult conditions as did our preceptors of thirty or forty years ago.

I have here a collection of a few instances of conditions that I have encountered in my practice here in our own beloved South Georgia.

Case No. 1.—Received this call about 10 o'clock at night, and after driving seven miles in the face of a cold February wind, found a negro who had been shot with an old-fashioned muzzle-loading shot gun, charged with eighteen home-made "slugs" and a piece of an old blue flannel shirt-tail for wadding.

The load had taken effect in the left shoulder near the head of the humorus.

The negro was in a typical "turpentine shanty" about 16 x 20, which had one door, one window and a clay chimney that occupied nearly the entire end of the building. This was to serve me as a hospital.

My patient was lying on a "bunk" made of four rough boards nailed together like a box and filled with straw. Over this had been placed some sacks of the kind in which feed for oxen is commonly sold, these serving both as sheets and covering.

A fat pine torch was the only light obtainable. While attempting to make an examination, I was frequently interrupted by the necessity of extinguishing fire, caused by pitch from the torch dropping on the straw of which the "bunk" was made. However, I succeeded in making a fairly careful examination and found the entire joint shattered.

Upon asking for some hot water I found that the only vessel in which water could be heated was a small, rusty tin basin that the wounred negro had using as a spitoon and urinal.

The negro had been lying in this condition for eighty-four hours and septic infection had taken place; temperature 105, pulse 138.

After removing the shattered bone, I cleansed the wound and made him as comfortable as possible, and remained with him till he died at six the next morning.

This was the first surgical case I had after locating in my present home and the termination of it earned for me the unenviable reputation of "ain't worth a damn" among the people of that settlement.

Case No. 2.—I was called on this case by a telegram which read as follows: "Come to Hickox on eighty tonight". Train number eighty over the Atlantic Coast Line leaves my town at nine o'clock, and the above message reached me after eight; no time, as you see, for me to get a reply to my inquiry as to the nature of the case. There are many who hear this paper who know from experience that it is very seldom that a layman will give any particulars as to the nature of a case when he summons a doctor by telegram.

Experience had taught me the wisdom of going on all such calls prepared, as near as possible, for any emergency, hence in this case I took both emergency and operating cases.

Reaching Hickox about ten o'clock, I found a small boy waiting for me with a mule and spring wagon, in which we drove out in the country about four miles to a typical log house—my destination.

Here I found some twenty-five or thirty of the neighbors, men, women, children, and crying babies, gathered to aid their neighbor in the hour of trial by "sitting up" with the sick.

The men were, for the most part, sitting outside on the fence, whittling sticks and chewing tobacco, while they discussed the chances of the patient's living till daylight. Inside the house were the women and children—the former sucking snuff-sticks and spitting through their fingers at the fire, while they jostled their babes on their knees and related all the different kinds of afflictions that had ever visited them or their families—nearly all of which had a fatal termination.

This time I was more fortunte in regard to the light, as here I had a small brass lamp—all but the chimney.

The patient, a girl of sixteen, was on a home-made bed, which stood in the center of the room, whereon were draped all the women who could not hold their own with the snuff and spitting—some rubbing the girl's head, some her hands, legs, feet, stomach, etc., etc.

Examination showed me that we had a purulent case of appendicitis, so taking the parents aside I explained the serious nature of the case to them and advised an immediate operation.

With the assistance of some of the big-hearted women, and by the uncertain light of the brass lamp—without a chimney—I did a laparotomy and amputated the appendix.

Right here let me state, gentlemen, that I have never seen more kindness, sympathy or big-heartedness than is found among the women met with in the backwoods log houses of South Georgia.

In this case I was more fortunate in the termination of the case, for the girl made an uneventful recovery and I dismissed her on the twenty-third day.

Case No. 3.—This case was a negro suffering with a gunshot wound in the left side.

Examination showed that the bullet, probably a 38-calibre, had entered just above the anterior superior spinous proces of the Illium and had passed out just to the left of the sacrum.

The negro, wearing the same clothing in which he had been shot some six hours before, was lying on a woven wire cot that had seen better days and which resembled a trough more than anything else.

Under him had been placed an old oil-cloth table cover.

The family implored me all the while to do all in my power for him; hence, after I had anesthetized him I seceured a fairly intelligent man to keep the anesthetic going by giving a little more from time to time as I directed, while I did an exploratory laparotomy.

Besides extensive internal hemorrhage and some damaged omentum, I found one fold of the intestine divided.

I cleaned up the damage as well as I could, connected the divided ends of the intestine with a Murphy's button and closed the wound, leaving sufficient drainage. Expecting the man to be dead in a short time, I did not even caution the brother, who was to act as nurse, regarding the button.

After stating that I would return again if needed, I left.

The man was still alive when I returned some hours later and he continued to improve till he passed the button on the tenth day, and then made an uneventful recovery.

He is still in the land of the living and is driving a team for the turpentine operator who stood good for my fee.

Case No. 4.—I was routed out of bed on Christmas eve, about midnight, to see a man who, during a drunken row with a negro, had been badly cut about the head with a razor. His friends had taken him to the barber shop, that being the only place open at that time of night, and, not seeming to think that maybe a doctor could do more than they for him, had exhausted all their skill and ability in an effort to check the blood before I was called.

When I finally reached him he was lying before a huge fire on the floor which presented the usual appearance of a town barber shop floor after a busy Saturday, being covered with hair trimmings, sand and dirt, cigar and cigarette stumps and tobacco juice.

The man was unconscious from the loss of blood. The wound had been smeared with old chews of tobacco, cobwebs, soot, and everything that his friends had ever heard to be good to stop bleeding. One wise friend had even placed a tin basin of water on the man's stomach, since he had never heard of a case in which bleeding was not stopped by placing a basin of water under the bed of the patient. As this poor devil was not in a bed and there was no way to put the water under him, he had decided to try the virtue of placing it on top of him.

After cleansing the wound I found that the gash extended from the upper border of the maxillary process of the temporal bone, forward and downward on the left side of the face, to the point of the chin, dividing in its course the entire external ear just above the lobe, and the duct of

Stensen, together with some of the vessels.

Bringing into force all the antiseptic measures that I could under these circumstances, I took up the arteries and closed the wound with interrupted sutures, bringing the lips of the wound as near into apposition as possible.

On the fifth day this man ran away from those who were taking care of him and again became beastly drunk, but in spite of all that, he made a complete recovery, and today he is as well as ever and has but a bad scar to remind him that some negroes are dangerous.

There is no fistula of Stensen's duct.

BACILLI CARRIERS AND THEIR RELATION TO PUBLIC HEALTH*

Katherine R. Collins, M.D., Atlanta

It is only within recent years that the significance of bacilli carriers and their relation to the spread of infectious diseases has been recognized, but the importance of the place that this factor holds in the dissemination of disease is being stressed more and more.

Human beings, insects or animals may become carriers of the causes of certain diseases. The scope of this paper, however, will be limited to human carriers for convenience.

Carriers may be divided into three classes:

First—Permanent Carriers: This class is confined to such persons who have never had the disease, which is produced by the organism for which they act as host.

Second—Temporary Carriers: Such persons who come in close contact with a patient suffering with an infectious disease acquire temporarily the organism related to the disease.

Third—This class consists of such persons who are convalescent from certain infectious diseases, and continue, after complete recovery, to maintain the organism causing the disease, for varying periods of time.

The causes of all diseases of an infectious nature will not be transmitted by the three means mentioned above, some falling only under one, others under two, and again others under three of the classes, respectively.

We have more certain facts concerning the part played by human carriers, especially with reference to permanent carriers, in the spread of typhoid fever and diphtheria, than any of the other contagious diseases.

First, as to carriers of the diphtheria bacilli, we find, according to Grahame Smith and others, that from ten to fifty per cent. of contacts have been found to harbor the diphtheria bacilli in the throat and nasal passages for varying periods of time. The percentage of persons acquiring the bacilli under these conditions will, of course, be affected by the amount of precaution observed in the hygiene of the sick-room. The greater care taken the less will be the danger to those in attendance on the patient and to persons with whom they come in contact, after the recovery of the patient.

Under the third class, convalescents, individuals have been found who carry the active bacilli anywhere from a few days to six hundred and sixty-nine days, the long time on record, after the disappearance of the membrane. Such cases are more of a menace to the public than the patients during the height of the disease, when proper precautions are being observed to prevent the spread of contagion.

It might be well to state here something of the nature of diphtheria bacilli and allied organisms, for the reason that laboratories too often rely upon the morphology of the bacillus alone in making a diagnosis. Exceptionally such diagnoses may be in error, because there are a number of organisms which resemble in form the typical diphtheria bacillus, and also some of its pleomorthic forms. In such cases where there is any doubt as to the diagnosis it is advisable to resort to the animal test. This takes some three or four days and is not practical where antitoxin is indicated, but it gives valuable information as to the proper procedure for quarantining and disinfecting. Diphtheria bacilli may be divided into two classes, which are homologous in their morphology, but differ in their power of toxin production. They are designated as virulent and nonvirulent bacilli. Williams and others, after years of observation, failed to con-

* Read at meeting of Medical Association of Georgia, Rome, April, 1912.

vert a virulent into non-virulent organism, or vice versa. Some observers are opposed to this view, however. Park and Beebe found eighty per cent. virulent bacilli in the throat of suspected cases, fifteen per cent. non-virulent bacilli. In normal persons, who were non-contacts, about two per cent. of virulent bacilli were found, while 2.62 per cent. were non-virulent. The virulent organism is very readily differentiated from the non-virulent by its effect upon the guinea pig, hence the advisability of resorting to this test in all cases where diphtheria bacilli are found in normal throats or in individuals not presenting the typical symptoms of diphtheria.

Aside from the non-virulent type of the diphtheria bacillus, there are a few organisms which closely resemble this bacillus in some of its unusual forms, but these differ from it in cultural characteristics and in the production of toxins. Such bacilli as the Hoffman bacillus and the bacillus Xerosis. The bacillus Xerosis is frequently found in the conjunctive, and occasionally, according to some authorities, has been the cause of slight pathological conditions. Others deny, however, that this bacillus has any power of setting up even a mild degree of irritation. It is well to keep this in mind in diagnosising conditions of the conjunctiva that seem to be diphtheritic in nature.

Typhoid Fever.—It is a well-known fact that convalescents from typhoid fever may carry the organisms from a few weeks to twelve or eighteen months after recovery. It seems to me possible that such convalescents, especially among children of the age to attend school at a distance, where the dormitory system prevails, may be responsible for some outbreaks of typhoid fever in such schools and colleges. A careful history obtained from each child upon being entered at the beginning of every fall term, and examinations made when necessary, might be a useful method to pursue in preventing many epidemics of infectious diseases, occurring throughout the year. In regard to contacts in the case of typhoid fever, we have no accurate knowledge corresponding to contact cases in diphtheria, but it would be perfectly possible, though not probable, for an individual to acquire temporarily the organisms, and becomes a means of transmission of the disease.

Several cases of permanent carriers of typhoid fever have been reported where the individual, without ever having the disease as far as could be ascertained, has acted as host to this organism.

Many of you may be familiar with the case of the cook, who was a carrier, reported by Dr. Soper, of New York City. He found that typhoid fever developed in nine families shortly after this woman came into the house. In these nine families some twenty cases of typhoid fever developed with two deaths. The families did not all live in one city. Upon examination of the feces of this woman almost a pure culture of the typhoid bacillus was found. This woman was isolated and kept under observation for two years. Occasionally there would be a few days when very few of the organisms or none at all could be found, but for the greater part of the time the bacillus typhosus surplanted almost all other organisms in the stools. This bacillus was virulent at all times. The woman gave no history of ever being ill, no evidence of infection of the gall bladder could be obtained, and all treatment failed to eliminate the organisms. After being confined by the authorities for something over two years, she was finally released with the understanding that she was to report at intervals to the health department, precautionary measures were to be observed, and she was not allowed to follow her vocation as a cook.

The British Government reports such another case in India. The woman gave no history of ever having had an attack of typhoid fever, but acted as host to this organism, and some eight or ten cases of the disease developed at different times within her own household. The German authorities have tried in some of these cases to remove the cause by operation upon the gall bladder, assuming that this has become the seat of infection, but their success has not been such as to justify this procedure being universally adopted.

There are a number of other diseases which are carried in the same way, that is, by the individual acting as host, without themselves being infected. This has been demonstrated in a case of cerebrospinal meningitis, where the diplococcus

intracellularis has been found in the nasal sections of contacts.

In conclusion it would seem advisable in cases of epidemics of various infectious diseases, especially in institutions, etc., to consider the possibility of human carriers, and to give careful instructions to those recovering from infectious diseases how to protect others against the disease from which they themselves have recovered.

Discussion on Dr. Collins' Paper

Dr. J. C. Bloomfield, Athens: I think that the question of bacilli carriers is a very important one, especially for our health officers to contend with. The difficulty arises with the man who carries the diseases and not so much with the disease itself. It has been my experience that the people are willing to do what is right if they understand the reason. Every man who has diphtheria, or whose child has diphtheria, knows that this is a contagious disease, that he or his child is liable to transmit the disease. There is no difficulty in quarantining cases of this kind. But there may be a child with diphtheria or other contagious disease in the school and other children in the school of course come in contact; then arises the question of proper quarantine; sometimes it is almost impossible to impress upon the people the necessity of keeping such cases away and properly quarantining them, especially when they are not very ill. I am satisfied that a large part of our diphtheria cases result from such conditions.

With regard to typhoid, in my own town of Athens there is a mill district; there are two small districts that are separate from one another. They obtain the same water that the inhabitants of Athens do. In two small streets they furnish one-third of all the typhoid cases of our city, and with a population of only about 200 or 250. I know there is a typhoid carrier in that district. In this one district they are very careless regarding their hygienic surroundings. In spite of all our efforts at keeping their closets clean, in April typhoid fever appears and continues until December. This small district furnishes one-third of all our typhoid cases in the city of Athens. I think this shows the importance of considering with care this question of the bacilli carrier.

In a recent typhoid epidemic we had one case, a child who was stricken with a severe attack. The sister-in-law attended the State Normal School. She did not feel that she could affqord to lose any time because of sickness. She was requested to come and stay with a friend until the quarantine had been lifted and she did. Three days after it was found that she had gone to this friend of hers. Cultures taken from her throat were positive and she was sent back to her home. The house was disinfected thoroughly. Eight days a child in the house she had been to was stricken with diphtheria. The student, however, never had the disease at all, but was a bacilli carrier. This shows the difficulty of handling these cases. I believe that if we can control these carriers, we can stamp out this disease; unless we can, it is impossible. I believe that if the cities have the facilities, in every instance in which diphtheria breaks out, every child in the school-room which was occupied by this patient should have a culture taken. In the city of Athens this cannot be done. But we have an ordinance that no child who has a sore throat for twenty-four hours can return to school until a culture has been taken and declared free. We have found in many instances that children with sore throats, yet without any membranes in the throat, will give a positive culture. Such children, if allowed to return to school, would act as carriers for from six, ten or twelve days.

Dr. J. C. Bennett, Jefferson: I appreciate the merits of the paper very much; I think that the subject he has brought forward is one of the most important that medical men can consider. We should guard the public health. We are called upon to prevent disease as well as to cure disease. This matter of carriers of bacilli and the extension of infectious diseases demands serious thought and attention. If we could place these carriers of disease out of business, we should do so. I believe that we owe Dr. Collins a rising vote of thanks.

I move that a rising vote of thanks be extended to Dr. Collins for what she has given us in her paper. (Seconded and carried.)

Dr. J. R. B. Branch, Macon: It is well known that the typhoid fever patient may

be a chronic bacilli carrier; he for a long time harbors the bacilli and scatters them through the urine and the stools. At the end of convalescence the urine can be absolutely sterilized by the administration of urotropin, five grains given three times a day. This should be given during convalescence. It would be a good idea to have the urine and the stools examined before the patient was discharged. The giving of urotropin renders the urine as well as the stools free of the typhoid bacilli.

In regard to sterilizing the gall bladder by the administration of urotropin, it should be remembered that the gall bladder harbors the bacilli of typhoid fever longer than any other part of the body. Urotropin has been shown to be excreted through the bile; therefore, it has a direct effect against the bacilli contained therein. The value of this agent I believe to be extremely great; it is of value not only in preventing the patient from scattering the typhoid bacilli, but also in preventing some of the sequelae of the disease.

Dr. R. R. Daly, Atlanta: With regard to these bacilli carriers, I think that it is up to our educating the people and to illustrate this I wish to report a case.

Last spring a child was seen who was blind in one eye and the diagnosis was made of malignant tumor. At operation there was found a melano-sarcoma. The child did well for twenty-four hours. On the day following there was a rise in the temperature. Soon the sarcomatous process broke out again. After repeated examinations there were found symptoms of diphtheria, and the cultures taken were positive. The father reported that he had five children; one had diphtheria, and he refused to isolate this child. The patient was kept in bed because of the eye condition, and not because he was afraid of the diphtheria. All the children, five in number, had diphtheria, but they were not isolated. They were all bacilli carriers. The question arises, how can we get at such conditions? The father could not be made to understand that he should keep these children in.

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ASSOCIATION OF STATE, COUNTY AND MUNICIPAL HEALTH BOARDS

Annual Meeting, Augusta, April 16, 1912

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Program

"Powers of the State Board of Health." Dr. S. C. Benedict

"Examination of Country School Children." Dr. A. G. Fort

"Bacillus Carriers with Especial Reference to School Children." Dr. K. R. Collins

"One Phase of Local Mosquito Control." Dr. A. V. Wood

"Some Sanitary Problems of Small Cities." Dr. Osborne

(Title not given). Hon. R. F. Maddox

"Disinfection and Disinfectants." Dr. H. F. Harris

"Possibilities of Laboratory Work in Cities." Dr. W. W. Brown

(Title not given). Dr. E. E. Murphey

Arrangement of Program

The Committee on Scientific Work completed the arrangement of the program April first. It was manifestly impossible to hold this over longer, and as a number of titles have been sent in since that time they could not be placed where they belong. Other papers have been omitted from the program, due to the lateness of their arrival.

We trust the writers of such papers will not feel agrieved, as the committee delayed its final work as long as possible.

THE JOURNAL OF THE MEDICAL ASSOCIATION OF GEORGIA.

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ANONYMOUS CONTRIBUTIONS, whether for publications, for information, or in the way of criticism are consigned to the wastebasket unread.

NEWS: Our readers are requested to send us items of news of a medical nature, also **marked** copies of local newspapers containing matters of interest to physicians. We shall be glad to know the name of the sender in every instance.

CONSTITUTION AND BY-LAWS
of the
MEDICAL ASSOCIATION OF GEORGIA

CONSTITUTION

ARTICLE I—NAME OF THE ASSOCIATION

The name and title of this organization shall be the Medical Association of Georgia.

ARTICLE II—PURPOSES OF THE ASSOCIATION

The purpose of this Association shall be to federate and bring into one compact organization the entire medical profession of the State of Georgia; to extend medical knowledge and advance medical science; to elevate the standard of medical education, and to secure the enactment and enforcement of just medical laws; to promote friendly intercourse among physicians; to guard and foster the material interests of its members and to protect them against imposition; and to enlighten and direct public opinion in regard to the great problems of State medicine, so that the profession shall become more capable and honorable within itself, and more useful to the public, in the prevention and cure of disease, and in prolonging and adding comfort to life.

ARTICLE III—COMPONENT SOCIETIES

Component Societies shall consist of those county medical societies which hold charters from this Association.

ARTICLE IV—COMPOSITION OF THE ASSOCIATION

Section 1. This Association shall consist of members and delegates.

Sec. 2. Members: The members of this Association shall be the members of the component county medical societies, to which only white physicians should be eligible.

Sec. 3. Delegates: Delegates shall be those members who are elected in accordance with this constitution and by-laws to represent their respective component societies in the House of Delegates of this Association.

ARTICLE V—HOUSE OF DELEGATES

The House of Delegates shall be the business body of the Association, and shall consist of (1) Delegates elected by the component county societies: (2) the Councilors, and (3 ex-officio, the President and Secretary of this Association.

ARTICLE VI—COUNCIL

The Council shall consist of the Councilors, and the President and Secretary, ex-officio. Besides its duties mentioned in the by-laws, it shall constitute the Finance Committee of the House of Delegates. Five Councilors shall constitute a quorum.

ARTICLE VII—SECTIONS AND DISTRICT SOCIETIES

The House of Delegates may provide for a division of the scientific work of the Association into appropriate sections, and for the organization of such Councilor District Societies as will promote the best interests of the profession, such societies to be composed exclusively of members of component societies.

ARTICLE VIII—SESSIONS AND MEETINGS

The annual meetings shall take place on the third Wednesday in April, and at such place as shall be designated by the Association.

ARTICLE IX—OFFICERS

Section 1. The officers of this Association shall be a President, two Vice-Presidents, a Secretary-Treasurer, and eleven Councilors, one from each congressional district.

Sec. 2. The officers, except the Secretary-Treasurer and councils, shall be elected an-

nually. The terms of the Councilors shall be for three years, those first elected serving one, two and three years, as may be arranged, viz.: the Councilors for the first, second, third and fourth districts for three years; those for the fifth, sixth, seventh and eighth for two years; those for the ninth, tenth and eleventh for one year. The Secretary-Treasurer shall be elected for a term of five years. All these officers shall serve until their successors are elected and installed.

Sec. 3. The officers of this Association shall be elected by the Association by ballot, and without nomination. at 5 o'clock on the second day of the annual session, [and no person shall be elected to any such office who is not in attendance on that annual session,] **(Amendment proposed 1911,)** and who has not been a member of the Association for the past two years. If there is no election on the first ballot, the three names receiving the highest number of ballots shall be voted on, the other names being dropped. If there is no election on second ballot, the two names receiving the highest number of ballots shall be voted on until election occurs. Delegates to the American Medical Association shall be elected at same time and in same manner.

ARTICLE X—FUNDS AND EXPENSES

Funds shall be raised by an equal per capita assessment on each component society. The amount of the assessment shall not exceed the sum of $3.00 per capita per annum. Funds may be appropriated by the House of Delegates to defray the expenses of the Association, for publications, and for such other purposes as will promote the welfare of the profession. All resolutions appropriating funds must be referred to the finance committee before action is taken thereon.

ARTICLE XI—RATIFICATION

The House of Delegates shall submit all questions before it to the Association for ratification.

ARTICLE XII—THE SEAL

The Association shall have a common seal, with power to break, change or renew the same at pleasure.

ARTICLE XIII—AMENDMENTS

Any amendment that may be offered to the Constitution shall lie over until the next annual meeting; and for its adoption at such meeting shall require a two-thirds vote of all present and voting.

BY-LAWS

CHAPTER I—MEMBERSHIP

Section 1. The name of a physician on the properly certified roster of members of a component society, which has paid its annual assessment, shall be **prima facie** evidence of membership in this Association.

Sec. 2. Any person who is under sentence of suspension or expulsion from a component society or whose name has been dropped from its roll of members, shall not be entitled to any of the rights or benefits of this Association, nor shall he be permitted to take part in any of its proceedings until he has been relieved of such disability.

Sec. 3. Each member in attendance at the annual session shall enter his name on the registration book, indicating the component society of which he is a member. When his right to membership has been verified by reference to the roster of his society, he shall receive a badge which shall be evidence of his right to all the privileges of membership at that session. No member shall take part in any of the proceedings of an annual session until he has complied with the provisions of this section.

CHAPTER II—GENERAL MEETINGS

Section 1. All registered members may attend and participate in the proceedings and discussions of the general meetings. The general meetings shall be presided over by the President, or by one of the Vice-Presidents.

CHAPTER III—HOUSE OF DELEGATES

Section 1. The House of Delegates shall meet at 9 a. m. on the first day of the annual session. It may adjourn from time to time as may be necessary to complete its business; provided, that its hours shall conflict as little as possible with the general meetings. The order of business shall be arranged as a separate section of the program.

Sec. 2. Each component county society shall be entitled to send to the House of Delegates each year one delegate for every fifty members, and one for each fraction thereof, but each component society which has made its annual report and paid its assessment as provided in this Constitution and By-Laws shall be entitled to one delegate. Should the regular delegate from any county not be present at the meeting. the President shall appoint a substitute from that county to act.

Sec. 3. A majority of delegates present shall constitute a quorum.

Sec. 4. It shall, through its officers, council and othewise, give diligent attention to and foster the scientific work and spirit of the Association, and shall constantly study and strive to make each annual session a stepping-stone to future ones of higher interest.

Sec. 5. It shall consider and advise as to the material interests of the profession, and of the public in those important matters wherein it is dependent on the profession, and shall use its influence to secure and enforce all proper medical and public health legislation, and to diffuse popular information in relation thereto.

Sec. 6. It shall make careful inquiry into the condition of the profession of each county in the State, and shall have authority to adopt such methods as may be deemed most efficient for building up and increasing the interest in such county societies as already exist, and for organizing the profession in counties where societies do not exist. It shall especially and systematically endeavor to promote friendly intercourse among physicians of the same locality, and shall continue these efforts until every physician in every county of the State who can be made reputable has been brought under medical society influence.

Sec. 7. It shall encourage post-graduate and research work, as well as home study, and shall

endeavor to have the results utilized and intelligently discussed in the county societies.

Sec. 8. It shall divide the State into councilor districts, one for each congressional district, and, when the best interest of the Association and profession will be promoted thereby, organize in each a district medical society, and all members of component county societies and no others shall be members in such district societies.

Sec. 9. It shall have authority to appoint committees for special purposes from among members of the Association who are not members of the House of Delegates. Such committees shall report to the House of Delegates and may be present and participate in the debate thereon.

CHAPTER IV—DUTIES OF OFFICERS

Section 1. The President shall preside at all meetings of the Association and of the House of Delegates; shall appoint all committees not otherwise provided for, and shall perform such other duties as custom and parliamentary usuage may require. He shall be the real head of the profession of the State during his term of office, and as far as practicable, shall visit, by appointment, the various sections of the State and assist the Councilors in building up the county societies, and in making their work more practical and useful.

Sec. 2. The Vice-President shall assist the President in the discharge of his duties. In the event of the President's death, resignation, or removal, the Vice-Presidents, in their order, shall succeed him.

Sec. 3. The Secretary-Treasurer shall give bond in the sum of $1,000. He shall demand and receive all funds due the Association, together with the bequests and donations. He shall pay money out of the treasury only on a written order of the President.

Sec. 4. The Secretary-Treasurer shall attend the general meetings of the Association and the meetings of the House of Delegates, and shall keep the minutes of their respective proceedings in separate record books. He shall be ex-officio Secretary of the Council. He shall be custodian of all record-books and papers belonging to the Association. He shall provide for the registration of the members and delegates at the annual session. He shall, with the co-operation of the secretaries of the component societies, keep a card-index register of all the legal practitioners of the State by counties, noting on each his status in relation to his county society, and, on request, shall transmit a copy of this list to the American Medical Association. He shall aid the Councilors in the organization and improvement of the county societies and in the extension of the power and usefulness of this Association. He shall conduct the official correspondence, notifying members of meetings, officers of their election, and committees of their appointment and duties. He shall employ such assistants as may be ordered by the House of Delegates with the approval of the Association, and shall make an annual report to the Association. He shall supply each component society with the necessary blanks for making their annual reports; shall keep an account with the component societies, charging against each society its assessment and collect the same. Acting with the committee on scientific work, he shall prepare and issue all programs. The amount of his salary shall be fixed by the Association. He shall be editor of the Journal of the Medical Association of Georgia. He shall employ such assistants as may be ordered by the Council or the House of Delegates. He shall annually make a report of his doings to the House of Delegates.

CHAPTER V—COUNCIL

Section 1. The Council shall meet on the day preceding the annual session and daily during the session, and at such other times as necessity may require, subject to the approval of the President. It shall meet on the last day of the annual session of the Association to organize and outline work for the ensuing year. It shall elect a chairman and clerk, who, in the absence of the Secretary of the Association, shall keep a record of its proceedings. It shall, through its chairman, make an annual report to the House of Delegates.

Sec. 2. Each Councilor shall be organizer and peacemaker for his district. He shall visit each county in his district at least once a year for the purpose of organizing component societies where none exist, for inquiring into the condition of the profession, and for improving and increasing the zeal of the county societies and their members. He shall make an annual report of his work, and of the condition of the profession of each county in his district at the annual session of the House of Delegates. The necessary traveling expenses incurred by such Councilor in the line of the duties herein imposed may be allowed by the House of Delegates on a proper itemized statement, but this shall not be construed to include his expense in attending the annual session of the Association.

Sec. 3. The Council shall be the board of censors of the Association. It shall consider all questions involving the right and standing of members, whether in relation to other members, to the component societies, or to this Association. All questions of an ethical nature brought before the House of Delegates or the general meeting shall be referred to the Council without discussion. It shall hear and decide all questions of discipline affecting the conduct of members or of a component society, on which an appeal is taken from the decision of an individual Councilor, and its decision in all such matters shall be final, when ratified by the Association.

Sec. 4. In sparsely settled sections it shall have authority to organize the physicians of two or more counties into societies, to be suitably designated so as to distinguish them from district societies, and these societies, when organized and chartered, shall be entitled to all rights and privileges provided for component societies until such counties shall be organized separately.

Sec. 5. The Council shall provide for and superintend the publication and distribution of all proceedings, transactions and memoirs of the Association, and shall have authority to appoint such assistants to the editor as it deems necessary. It shall manage and conduct the Journal of the Medical Association of Georgia, which is

the organ of the Association, and all money paid into the treasury as dues shall be received as subscriptions to the Journal.

All money received by the Council and its agents, resulting from the discharge of the duties assigned to them, must be paid to the Secretary-Treasurer of the Association. As the Finance Committee it shall annually audit the accounts of the Secretary-Treasurer and other agents of this Association, and present a statement of the same in its annual report to the House of Delegates, which report shall also specify the character and cost of all the publications of the Association during the year, and the amount of all other property belonging to the Association under its control, with such suggestions as it may deem necessary. In the event of a vacancy in any office, the Council shall fill the vacancy until the next annual election.

Sec. 6. He shall furnish a balance sheet at each annual meeting for the past fiscal year to be published in the Journal. This shall consist of an itemized statement of all financial transactions of the past year, all accounts made, money received and from whom, and all moneys disbursed, to whom, and for what purpose, with vouchers attached. (A fiscal year includes the period of time between the first day of April and the last of March.)

Sec. 7. All reports on scientific subjects and all scientific discussions and papers heard before the Association, shall be referred to the Journal of the Medical Association of Georgia for publication. The editor, with the consent of the Councilor for the district in which he resides, may curtail or abstract papers or discussions, and the Council may return any paper to its author which it may not consider suitable for publication.

Sec. 8. All commercial exhibits during the annual sessions shall be within the control and direction of the Council.

Sec. 9. Any member of the Council who fails to attend two regular successive sessions of the Council, or whose district does not show evidences of the performance of his duties during the year, unless he renders an acceptable excuse to the Council, his position shall be declared vacant by the President and his successor appointed by the President.

Sec. 10. In the absence of a Councilor the President is empowered to appoint a representative from the District as acting Councilor.

Sec. 11. Each Councilor shall render at every session a written report of each county in his district.

CHAPTER VI—COMMITTEES

Section 1. The standing committees shall be as follows:

A Committee on Scientific Work.

A Committee on Public Policy and Legislation.

A Committee on Arrangements, and such other committees as may be necessary.

Sec. 2. The Committee on Scientific Work shall consist of three members, of which the Secretary-Treasurer shall be one, and shall determine the character and scope of the scientific proceedings of the Association for each session. Thirty days previous to each annual session it shall prepare and issue a program announcing the order in which papers, discussions and other business shall be presented.

Sec. 3. The Committee on Public Policy and Legislation shall consist of three members and the President and Secretary. Under the direction of the House of Delegates it shall represent the Association in securing and enforicng legislation in the interest of public health and of scientific medicine. It shall keep in touch with professional and public opinion, shall endeavor to shape legislation so as to secure the best results for the whole people, and shall strive to organize professional influence so a sto promote the general good of the community in local, State and National affairs and elections.

Sec. 4. The Committee on Arrangements shall be appointed by the component society in which the annual session is to be held. It shall provide suitable accommodations for the meeting places of the Association and of the House of Delegates, and of their respective committees, and shall have general charge of all arrangements. Its chairman shall report an outline of the arrangements to the Secretary-Treasurer for publication in the program, and shall make additional announcements during the session as occasion may require.

CHAPTER VII—COUNTY SOCIETIES

Section 1. All county societies now in affiliation with this Association, or those which may hereafter be organized in the State, which have adopted principles of organization not in conflict with this Constitution and By-Laws, shall, on application, receive a charter from and become a component part of this Association.

Sec. 2. As rapidly as can be done after the adoption of this Constitution and By-Laws, a medical society shall be organized in every county in the State in which no component society exists, and charters shall be issued thereto.

Sec. 3. Charters shall be issued only on approval of the Council, and shall be signed by the President and Secretary of this Association. The Association shall have authority to revoke the charter of any component society whose actions are in conflict with the letter or spirit of this Constitution and By-Laws.

Sec. 4. Only one component medical society shall be chartered in any county.

Sec. 5. Each county society shall judge of the qualification of its own members, but, as such societies are the only portals to this Association, every reputable and legally registered white physician who does not practice or claim to practice, nor lend his support to any exclusive system of medicine, shall be eligible to membership. Before a charter is issued to any county society, full and ample notice and opportunity shall be given to every such physician in the county to become a member.

Sec. 6. Any physician who may feel aggrieved by the action of the society of his county in refusing him membership, or in suspending or expelling him, shall have the right to appeal

to the Council, and its decision shall be final, when ratified by the Association.

Sec. 7. In hearing appeals the Council may admit oral or written evidence, as in its judgmen will best and most fairly present the facts, but in case of every appeal, both as a board and as individual Councilors in district and county work, efforts at conciliation and compromise shall precede all such hearings.

Sec. 8. When a member in good standing in a component society moves to another county in this State, his name, on request, shall be transferred, without cost, to the roster of the county society into whose jurisdiction he moves.

Sec. 9. A physician living on or near a county line may hold his membership in that county most convenient for him to attend, on permission of the component society in whose jurisdiction he resides.

Sec. 10. Each component society shall have general direction of te affairs of the profession in its county, and its influence shall be constantly exerted for bettering the scientific, moral and material condition of every physician in the county; and systematic efforts shall be made by each member, and by the society as a whole, to increase the membership until it embraces every qualified physician in the county.

Sec. 11. At some meeting in advance of the annual session of this Association, each county society shall elect a delegate or delegates to represent it in the House of Deleagtes of this Association, in the proportion of one delegate to each fifty members, or fraction thereof, and the secretary of the society shall send a list of such delegates to the Secretary of this Association at least ten days before the annual session.

Sec. 12. The secretary of each component society shall keep a roster of its members, and of the non-affiliated registered physicians of the county, in which shall be shown the full name, address, college and date of graduation, date of license to practice in this State, and such other information as may be deemed necessary. In keeping such roster the secretary shall note any changes in the personnel of the profession by death, or by removal to or from the county, and in making his annual report he shall be certain to account for every physician who has lived in the county during the year.

Sec. 13. The secretary of each component society shall forward its assessment, together with its roster of officers and members, list of delegates, and list of non-affiliated physicians of the county, to the Secretary of this Association each year, thirty days before the annual session.

Sec. 14. Any county society which fails to pay its assessment, or make the report required, on or before April 1 of each year, shall be held as suspended, and none of its members or delegates shall be permitted to participate in any of the business or proceedings of the Association, or of the House of Delegates, until such requirement has been met.

Sec. 15. The Secretary of each county society shall report to the Journal of the Medical Association of Georgia full minutes of each meeting and forward to it all scientific papers and discussions which the society shall consider worthy of publication.

CHAPTER VIII—MISCELLANEOUS

Section 1. No address or paper before the Association shall occupy more than fifteen minutes in its delivery; and no member shall speak longer than five minutes, nor more than once on any subject, except by unanimous consent.

Sec. 2. All papers read before the Association, or any of the sections, shall become its property. Each paper shall be deposited with the Secretary when read.

Sec. 3. The deliberations of this Association shall be governed by parliamentary usage as contained in Robert's Rules of Order, when not in conflict with this Constitution and By-Laws.

CHAPTER IX—AMENDMENTS

These By-Laws may be amended at any annual session by a majority vote of the Association, after the amendment has laid on the table for one day.

BOOK REVIEW

PELLAGRA

By George M. Niles

Octavo of 235 pages, illustrated. W. B. Saunders Company, 1912. Price, $3.00.

The author discusses in a very complete and satisfactory manner the present status of our knowledge of the disease. Especially in the chapters on Symptomatology and Diagnosis is his considerable experience with pellagra evidenced, and many valuable points on the early diagnosis emphasized.

The chapter on Etiology gives a resume of the various theories, and the author concludes that "The etiology of pellagra, while admittedly not proved, has furnished a stronger bill of indictment against maize than any other suspected cause."

Very complete historical data is given and evidence submitted showing the existence of this disease in the United States for many years before it was generally recognized; but in view of the fact that the little hook-worm has previously made excellent claim for the high mortality at Andersonville, we are rather skeptical in accepting the author's hypothesis that to pellagra belongs that distinction.

In the chapter on Treatment no claim is made for a specific therapy, but many valuable therapeutic measures are suggested. The book is well illustrated and should prove a valuable addition to any library.

N. M. M.

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